

**DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK**

**G U Y A N A**

**UNSERVED AREAS ELECTRIFICACION PROGRAM (UAEP)**

**Operation No. 1103/SF-GY  
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DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

**GUYANA**

**UNSERVED AREAS ELECTRIFICATION PROGRAM  
(UAEP)**

**(GY-0065)**

**LOAN PROPOSAL**

This document was prepared by the project team consisting of: Roberto Manrique, Project Team Leader; Lorena Lopez, Vera Vicentini, RE3/FI3; Trevor Boothe, Gordon Lewis, COF/CGY; Kevin Mc Tighe, LEG/OPR and Uwe Richter, Consultant.

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## ABBREVIATIONS

<b>AC Power</b>	America and Caribbean Power, Ltd.
<b>CEI</b>	Chief Electrical Inspectors Office
<b>EID</b>	Electrical Inspection Department
<b>EIRR</b>	Economic Internal Rate of Return
<b>EMS</b>	Environmental Management System
<b>EPA</b>	Environmental Protection Agency
<b>ERM</b>	Environmental Resources Management
<b>ESBI</b>	Electricity Supply Board of Ireland
<b>ESRA</b>	Electricity Sector Reform Act 1999
<b>FIRR</b>	Financial Internal Rate of Return
<b>FSO</b>	Fund for Special Operations
<b>GDP</b>	Gross Domestic Product
<b>GEA</b>	Guyana Energy Agency
<b>GEC</b>	Guyana Electricity Corporation
<b>GNP</b>	Gross National Product
<b>GOG</b>	Government of Guyana
<b>GPL</b>	Guyana Power and Light, Inc.
<b>HIPC</b>	Heavily Indebted Poor Countries
<b>ICB</b>	International Competitive Bidding
<b>IMF</b>	International Monetary Fund
<b>MW</b>	Megawatts
<b>NPV</b>	Net Present Value
<b>OPM</b>	Office of the Prime Minister
<b>PIU</b>	Project Implementation Unit
<b>PPA</b>	Power Planning and Associates, Ltd.
<b>PPF</b>	Project Preparation Facility
<b>PRGF</b>	Poverty Reduction and Growth Facility
<b>PTI</b>	Poverty Targeted Investment
<b>PUC</b>	Public Utilities Commission
<b>PUCA</b>	Public Utilities Commission Act
<b>SEQ</b>	Social Equity and Poverty Reduction Classification
<b>UAEP</b>	Unserved Areas Electrification Program

# GUYANA

UNSERVED AREAS  
ELECTRIFICATION PROGRAM  
(GY-0065)



This map, prepared by the Inter-American Development Bank, has not been approved by any competent authority and its inclusion in the loan document has the exclusive objective of indicating the area of influence of the project proposed for financing.



Inter-American Development Bank  
Regional Operations Support Office  
Operational Information Unit

# Guyana

## TENTATIVE LENDING PROGRAM

2002

Project Number	Project Name	IDB Fin. US\$ Millions	Status
GY0065	Unserved Areas Electrification Program	27.4	
GY0066	Information & Communications Technology	21.3	
GY0063	Basic Education, Access, & Mgmt Support	30.0	
GY0068	Basic Nutrition Program	5.0	
GY0011	Agricultural Support Services	10.0	
	<b>Total - A : 5 Projects</b>	<b>93.7</b>	
GY0055	Georgetown Solid Waste Management	8.1	
GY0064	Technical Vocational Education and Train	20.0	
	<b>Total - B : 2 Projects</b>	<b>28.1</b>	
	<b>TOTAL 2002 : 7 Projects</b>	<b>121.8</b>	

2003

Project Number	Project Name	IDB Fin. US\$ Millions	Status
GY0053	Public Sector Modernization Program	35.0	
	<b>Total - A : 1 Projects</b>	<b>35.0</b>	
	<b>TOTAL - 2003 : 1 Projects</b>	<b>35.0</b>	

**Total Private Sector 2002 - 2003** 0.0  
**Total Regular Program 2002 - 2003** 156.8

\* Private Sector Project



## GUYANA

### IDB LOANS

APPROVED AS OF APRIL 30, 2002

	<i>US\$Thousand</i>	<i>Percent</i>
<b>TOTAL APPROVED</b>	<b>749,998</b>	
<i>DISBURSED</i>	555,919	74.1%
<i>UNDISBURSED BALANCE</i>	194,079	25.9%
<i>CANCELLATIONS</i>	38,210	5.1%
<i>PRINCIPAL COLLECTED</i>	208,759	27.8%
<b>APPROVED BY FUND</b>		
<i>ORDINARY CAPITAL</i>	103,637	13.8%
<i>FUND FOR SPECIAL OPERATIONS</i>	639,426	85.3%
<i>OTHER FUNDS</i>	6,934	0.9%
<b>OUTSTANDING DEBT BALANCE</b>	<b>347,160</b>	
<i>ORDINARY CAPITAL</i>	25,216	7.3%
<i>FUND FOR SPECIAL OPERATIONS</i>	321,945	92.7%
<i>OTHER FUNDS</i>	0	0.0%
<b>APPROVED BY SECTOR</b>		
<i>AGRICULTURE AND FISHERY</i>	242,845	32.4%
<i>INDUSTRY, TOURISM, SCIENCE TECHNOLOGY</i>	33,387	4.5%
<i>ENERGY</i>	76,884	10.3%
<i>TRANSPORTATION AND COMMUNICATIONS</i>	127,411	17.0%
<i>EDUCATION</i>	59,167	7.9%
<i>HEALTH AND SANITATION</i>	75,550	10.1%
<i>ENVIRONMENT</i>	900	0.1%
<i>URBAN DEVELOPMENT</i>	47,319	6.3%
<i>SOCIAL INVESTMENT AND MICROENTERPRISE</i>	49,437	6.6%
<i>REFORM PUBLIC SECTOR MODERNIZATION</i>	36,163	4.8%
<i>EXPORT FINANCING</i>	934	0.1%
<i>PREINVESTMENT AND OTHER</i>	0	0.0%

\* Net of cancellations with monetary adjustments and export financing loan collections



# GUYANA

## STATUS OF LOANS IN EXECUTION AS OF APRIL 30, 2002

(Amounts in US\$ thousands)

APPROVAL PERIOD	NUMBER OF PROJECTS	AMOUNT APPROVED	AMOUNT DISBURSED	% DISBURSED
Before 1996	5	109,400	103,703	94.79%
1996 - 1997	2	58,000	19,487	33.60%
1998 - 1999	5	104,000	8,608	8.28%
2000 - 2001	3	53,900	46	0.08%
<b>TOTAL</b>	<b>15</b>	<b>\$325,300</b>	<b>\$131,844</b>	<b>40.53%</b>

\* Net of Cancellations . Excluding export financing loans.

**UNSERVED AREAS ELECTRIFICATION PROGRAM  
(UAEP)**

**GY-0065**

**EXECUTIVE SUMMARY**

<b>Borrower and Guarantor:</b>	The Cooperative Republic of Guyana		
<b>Executing agency:</b>	Office of the Prime Minister and Minister responsible for the electricity sector (OPM)		
<b>Amount and source:</b>	IDB: (FSO)	US\$	27.4 million
	Local:	US\$	7.0 million
	Total:	US\$	34.4 million
<b>Financial terms and conditions:</b>	Amortization Period:	40	Years
	Grace Period:	10	Years
	Execution Period:	60	Months
	Disbursement Period:	66	Months
	Interest Rate:	1% during grace period 2% thereafter	
	Supervision and Inspection:	1	%
	Credit Fee:	0.5	%
	Currency:	U.S. Dollars	
<b>Objectives:</b>	The objective of the proposed Project is to support the Government's socio-economic development and poverty alleviation strategy and related policies, through strengthening the legal, regulatory, and institutional framework and providing the financial resources required for accelerated electricity sector development and extension of service to currently unserved consumers.		
<b>Description:</b>	The Project comprises three components:		
	(1) <b>The investment component (US\$27.7 million)</b> will finance the Government's 75% contribution to a self-contained program to electrify currently unserved areas over the 2002-06 period, as stipulated in Guyana Power and Light, Inc. (GPL) License. This component comprises the extension of distribution lines and house connections for about 40,000 new customers in the vicinity of		

Georgetown and other coastal regions close to existing grids where relative to other areas, population density is high, connection costs are low, economic activities buoyant, and consumers' ability and willingness to pay assured, even though most new customers would be poor and semi-poor. This component will also finance project administration activities. Close coordination will be established with other ongoing Bank initiatives to seek synergies and enhance developmental impact. The design of this component would aim at ensuring that: (i) least-cost solutions are applied and sub-projects are selected based on proper economic-financial and institutional analysis and criteria; and (ii) subsidies to consumers are limited to a portion of investment costs, with tariffs fully covering operating and maintenance costs. This component will be implemented by GPL, the private operator of the utility;

**(2) The hinterland project preparation component (US\$4.5 million)** will finance: (i) evaluations of options and requirements for economically, socio-environmentally, and institutional-administratively viable electrification of isolated centers where the extension of existing grids would not be feasible, as basis for sustainable institutional and financing schemes for future project development, including identification of any modifications needed to adapt the sector's legal, regulatory, and institutional framework to the specific requirements of electrification in the interior of the country (hinterland); (ii) three to five demonstration projects in selected areas and applying representative technologies and locally available energy resources, with a view to testing their feasibility at a larger scale; (iii) measures necessary to ensure consultation with local populations and other stakeholders on relevant projects and participation of these groups in decision-making; (iv) supervision of the technical, economic-financial, socio-environmental, and institutional-administrative aspects of demonstration projects, and (v) outside supervision through qualified independent specialists. This component will be implemented by OPM.

**(3) The institutional strengthening and capacity-building component (US\$1.5 million)** will finance: (i) institutional reforms to support the viability of UAEP; (ii) mechanisms to monitor and evaluate the implementation of the technical, economic-financial, socio-environmental, and institutional-administrative aspects of the Project in its entirety, including technical assistance to OPM, Public Utilities Commission (PUC), Chief Electrical Inspectors Office (CEI), and Environmental Protection Agency (EPA) to

coordinate these tasks; (iii) training required for UAEP's successful implementation. This component will be implemented by OPM; and (iv) project management at OPM, including monitoring and evaluation of activities.

**Bank's country and sector strategy:**

The Bank's **country strategy** sets as its objectives (i) accelerating socio-economic development, under conditions of macroeconomic stability and led by the private sector, and (ii) alleviating poverty, through delivery of *improved* infrastructure services in housing, water supply, health, and education which are critical to economic activities and social empowerment. The Bank's **electricity sector development strategy**, which is embedded in its country strategy as well as its Energy Sector Strategy (GN-1969-4), aims at supporting the Government's sector rehabilitation and reform strategy and thus, ensuring the socio-economic, financial, and socio-environmental sustainability of sector development. Extending the system to unserved low-income consumers especially along the coast--an activity included in the Government of Guyana's (GOG) Poverty Reduction Strategy Paper--is a logical extension of the Bank's strategy to support the Government's sector and economy-wide reform agenda and to contribute to the Government's goals of socio-economic development and poverty alleviation.

**Rationale for Bank participation and Project strategy:**

As a principal donor to Guyana and its electricity sector, the Bank has developed close cooperation with the Government. Its participation in UAEP would enhance this program's effectiveness and relevance to the country's socio-economic development process. The Bank and Government have agreed to focus on: (i) initially, extending service to those coastal areas and customers that are likely to incur low costs and attain high benefits, (ii) assessing options and requirements for sustainable supplies to hinterland communities, and (iii) strengthening institutions that implement UAEP, and (iv) further developing the sector's regulatory and institutional framework.

**Environmental and social review:**

The project will have net positive socio-economic impacts in the project areas and the country as a whole. Potential negative socio-economic and environmental aspects are expected to be local, temporary and of small magnitude. The socio-environmental strategy for the Project includes the following approach: (i) the **investment component** will follow existing environmental regulations developed as part of the Bank's Electricity Sector Program, and provide assistance to EPA and the Principal Project Coordinator's Office to supervise GPL's application of its environmental management system; and will finance a public

awareness and education program which will include the promotion of energy efficiency use; (ii) the **hinterland project preparation component** will support the creation of a socio-environmental framework for sustainable electrification projects in the future, assess its effectiveness through demonstration projects, and evaluate its results through a participatory monitoring and evaluation system to consolidate a sound framework; and (iii) the **institutional strengthening and capacity building component** will provide assistance to EPA to undertake basic studies and conclude twinning arrangements with regional and international environmental institutions, and if necessary, in adjusting the existing regulatory and institutional framework to establish socio-environmentally sustainable electrification systems.

**Benefits:**

The supply of electricity to poor communities will create stable conditions for enhanced economic activities to help alleviate poverty and raise living standards. The hinterland component will support the creation of a sound socio-environmental framework for sustainable electrification projects in the future, assess its effectiveness through demonstration projects, and monitor and evaluate their implementation. Electrification will result in the provision of cleaner energy, which will allow the substitution of fossil fuels as energy sources and the corresponding improvements in the overall quality of life. Additional benefits would be mobilized through employment opportunities related to electrification works, improved flood control through use of electric pumps, and through providing an impetus for allocation of long-term tenure and more responsible lot management, and for regularization and improvement of squatter communities.

**Risks:**

**Country Project Evaluation and Preparation Capacity Weaknesses** persist in the capacity of the sector institutions and operators to evaluate projects and assess their impact on the sector and the overall economy and society. To address this risk, the Bank has supported studies to (i) provide the Government with the tools to rank the priority and sequence of geographic areas and individual sub-projects for electrification, and (ii) evaluate the capacity of sector institutions and operating entities involved in the electrification program, and their resource requirements for undertaking the program. As a result of these and previous studies, specific activities to support sector institutions have been defined and are included in the institutional strengthening and capacity building component.

**Electricity Tariff Policies.** After the 15.89% average tariff increase in the period January-April 2002, current energy charges

average 17.8 US\$cents/kWh and meet economic costs and GPL's revenue requirements. However, despite this high absolute level, discrepancies between tariff categories remain as residential tariffs are heavily cross-subsidized and tariff rebalancing between customer categories is limited by GPL's license to 5% per year for all consumer groups.. In order to ensure sustainable electricity pricing, the project agreement between GPL and GOG will include a commitment to apply tariff rebalancing to the fullest extent permitted under the current license, with less than full rebalancing to be considered only for lifeline rates. The Bank will make tariff action a key element of the GOG-GPL project agreement, and in the regular and mid-term reviews.

**GPL's Position and Performance.** GPL has not yet achieved the performance targets set at the time of its creation and the targets set under UAEP may exceed its current managerial and operational capacities. In order to address this risk, the Bank will support the establishment of a dedicated UAEP implementation unit within GPL, monitor GPL's performance on UAEP operations, stay fully involved in sector development; and will support the Government and sector institutions in strengthening supervision of GPL's performance.

**Timing and Financing of Required Generation Capacity and Other Related Investments.** The 40,000 connections under the investment component will require an estimated 15-20 Megawatts (MW) in additional generation capacity and other related investments. GPL has recently completed negotiations for the financing of most of the programmed generation expansion of 40 MW. In order to ensure that the investments supported by this project do not involve future capacity constraints, the GOG-GPL project agreement will require that the proposed UAEP investments be phased in only as the required additional generation capacity is available. The Bank will monitor progress on this requirement on the annual and mid-term reviews.

**Special  
contractual  
clauses:**

Conditions prior to first disbursement:

- (i) Formal appointment, composition and functions of the Steering Committee to provide strategic direction and policy guidance ([para. 3.3](#));
- (ii) OPM shall present for the Bank's approval evidence that the Principal Project Coordinator has been formally designated, and that the project implementation unit (PIU) at OPM has been

established; and that the PIU at GPL: (i) is fully staffed; (ii) has established financial management systems to carry out their relevant project activities; and (iii) has a budget that includes the counterpart funds for the Project for the first year ([para. 3.6](#));

- (iii) Project agreement, establishing the contractual relationship between the GOG and GPL, and their respective rights and obligations for purposes of the investment component of the UAEP ([para. 3.8](#)).

**Poverty-targeting and social equity Classification:**

This operation qualifies as a social equity-enhancing project, as described in the indicative targets mandated by the Bank's Eighth Replenishment (Document AB-1704). This operation also qualifies as a poverty-targeted investment (PTI) ([para. 4.18](#)).

**Exceptions to Bank policy:**

None

**Procurement:**

The threshold above which procurement will be subject to international competitive bidding (ICB) is: US\$200,000 for consulting services, US\$350,000 for goods and other services, and US\$1.0 million for civil works.

## I. Frame of Reference

### A. Socio-Economic Framework

- 1.1 Guyana is a small, open, low-income economy whose development has been recently held back by external shocks and political problems. Beginning in 1988, important reforms were implemented to stabilize and liberalize the economy and to give the private sector a wider role. The improved policy framework had highly positive effects from the early 1990s onwards. Due to the resurgence in economic activity and only marginal population growth, Guyana's per capita gross national product (GNP) increased to US\$770 in 2000, slightly surpassing its previous peak in 1980. While the overall rate remains high by regional standards, absolute poverty at the national level declined 19%.
- 1.2 During the 1998-2001 period, however, progress was impeded by external and internal shocks including the El Niño drought followed by flooding; deteriorating export prices for bauxite, gold, timber, and rice and loss of preferential markets; a 66% government sector salary increase triggered by a major public service strike; rising petroleum prices; and recurring political unrest. As a result, real gross domestic product (GDP) growth stagnated. However, public spending induced by debt relief under the original Heavily Indebted Poor Countries Initiative (HIPC) obscures the severity and underlying weakness of productive sectors. Despite the Government's substantial policy efforts during the period, declining economic growth and export performance reflected in further deterioration of Guyana's macroeconomic indicators in 2001. In this respect, the HIPC debt relief has thus far played an important role in ameliorating the impact of external and internal shocks and attenuating the increase in poverty.
- 1.3 Under the most recent International Monetary Fund (IMF) Poverty Reduction and Growth Facility (PRGF), which expired in December 2001, the Government's structural reform agenda included some civil service reforms mainly outsourcing, and the implementation of an IDB-funded technical cooperation to Design the Public Sector Modernization Program; financial sector reforms which brought the Guyana National Cooperative Bank to the point of sale in October 2001, and supported by the Financial Sector Loan that fully disbursed in 2001 (PR-2056, July 25, 1995); agriculture sector reforms supported by a Bank loan (PR-1824, November 24, 1991; fully disbursed in 2001); procurement reforms, which are still being reviewed by an IDB-World Bank team and the bipartisan Public Procurement Commission; and the preparation of a fully participatory Poverty Reduction Strategy Paper.
- 1.4 The Government is currently negotiating a new three-year IMF PRGF, for which approval is expected in May 2002. This arrangement seeks further public sector reform including expenditure and wage restraint, tax and incentive reform, improvement of budget legislation, financial management, public sector investment program systems, and procurement legislation and reform, improvement of governance, and restructuring in the sugar and bauxite sectors

and the public pension system; and financial sector reform. The Government is also negotiating a World Bank Poverty Reduction Support Credit to support implementation. Finally, Guyana is expected to reach the completion point under the Enhanced HIPC Initiative in mid-2002, at which point it would start to benefit from additional debt relief of US\$329 million in net present value (NPV) terms. Before the completion point is reached, the IMF and World Bank are expected to conduct a comprehensive review of the Debt Sustainability Analysis.

- 1.5 On the political side, sustained dialogue and progress toward national consensus on important issues between the two major political parties has been established, following the March 2001 Presidential elections which international observers declared to have been free and fair. Political consensus offers a window of opportunity for the Government to accelerate structural reforms and strengthen institutional, administrative, and human resource capacities. Guyana's priorities have been established in the Poverty Reduction Strategy Paper, which seeks to: (i) reduce the proportion of the population living under the poverty line to 31.5% by 2003; (ii) reduce infant mortality rates to 47 per thousand by 2003; (iii) achieve universal primary education; and (iv) eliminate gender disparity in education by 2004. In order to achieve these goals, the Government's strategy seeks: (i) broad-based, job-generating economic growth; (ii) environmental protection; (iii) stronger institutions and better governance; (iv) investment in human resources with an emphasis on primary education and health; (v) investment in physical capital with emphasis on better and broader provision of safe water and sanitation services, farm to market roads, drainage and irrigation systems, and housing; (vi) improved safety nets; and (vii) special areas of intervention to redress regional disparities in economic and social conditions. Underlying these inter-related strategy elements are three major development challenges facing Guyana, which are improving growth performance, strengthening the development institutions and governance, and protecting vulnerable population groups. Key among these challenges, however, is that of achieving sustained growth, without which the country's poverty reduction goals will remain unattainable.

## **B. The Energy and Electricity Sector**

- 1.6 Socio-economic progress has been held back by the country's weak energy position. Energy sector development has been adversely affected by the lack of readily exploitable resources, the absence of a comprehensive and consistent development strategy and policies particularly demand management and pricing, and weak institutions. Guyana's public electricity system is relatively small with about 90 MW of installed capacity, virtually all thermal, and a peak load of 67 MW. In addition, there is self-generation by bauxite and sugar producers isolated from the public grid. The public system provides service to some 120,000 connections up from 96,000 in 1996. Since each connection on average includes an average of four inhabitants, 120,000 connections cover just about 60% of Guyana's population. Electricity supplies are largely limited to the coastal areas, whereas most of the interior areas of the country (hinterland) are unserved.

- 1.7 Major legal, regulatory, and institutional reforms in the sector took place in 1998-99, supported by the Bank, which culminated in the privatization through a capitalization process of the state-owned Guyana Electricity Corporation (GEC), and the establishment of the successor entity GPL. The reforms also provided for the establishment of a sector structure and a legal, regulatory and institutional framework consistent with GEC's privatization, including an environmental framework for sector operations. Assisted by the Bank, the EPA issued regulations for air, noise, water, and solid and hazardous waste and established guidelines for environmental assessments for electricity generation, transmission, and distribution activities.
- 1.8 In the course of the internationally competitive privatization process, America and Caribbean Power Ltd. (AC Power) acquired in October, 1999 a 50% shareholding against US\$23.45 million investments to rehabilitate and improve GPL's services and facilities, with the other 50% shareholding remaining with the Government. Four principal agreements between the Government and AC Power govern the transaction, i.e., the Share Subscription Agreement, Shareholders' Agreement, Management Agreement, and Operating and Agency Agreement. Through the Management Agreement, the private partner controls the operation, with the Electricity Supply Board of Ireland (ESBI) providing the management team. Annex III provides a summary of the key features of the transaction and license.
- 1.9 AC Power's capital contribution obligations are distributed over three years and are contingent upon certain conditions, including substantial tariff increases for the period 1999-2000 to which the Guyana social groups (labor unions; consumers' associations; private sector associations) agreed. To date, GPL has paid three tranches whereas the fourth and final tranche of US\$3.45 million is expected to be paid by October 2002. As part of the Shareholder's Agreement, additional capital was anticipated to be raised by 2001 through a private placement in Guyana of up to 5%, which as yet has not taken place as AC Power judged the conditions in Guyana not to be conducive; and by 2004 through an initial public offering for small private investors in Guyana and, possibly, other Caribbean countries. The placement and public offering would establish the Government's and AC Power's shareholdings in GPL at 40% each and at 20% for new investors, with the private partner maintaining management control over the company.
- 1.10 As established in the 1999 Electricity Sector Reform Act (ESRA) and in Schedule 1 of GPL's license, the regulation of GPL's tariffs is rate-of-return based and allows return on equity of 23% before tax (which equates to 14.9% after tax) to provide (i) the operating income necessary for GPL to operate and meet its financial obligations, and (ii) income sufficient to pay dividends on equity invested at the agreed rate of return. The incorporation of the tariff formula into the contract and underlying license was in recognition of Guyana's weak institutional endowment for strong and autonomous regulation.

- 1.11 GPL presently owns and operates the bulk of the coastal system, which consists of three non-interconnected subsystems and supplies about 120,000 households and the country's major industrial and commercial establishments. GPL's 25-year license, which can be extended by another 15 years, is non-exclusive for generation except during the first five years (system rehabilitation phase) but exclusive for transmission and distribution. The legislation empowers any individual and business in the country to self-generate electricity. The license area covers the entire country except for several small areas subject to different licenses to other public suppliers. After the system rehabilitation phase, GPL will be required to facilitate competition in generation through competitive bidding and subsequent power purchase agreements with new suppliers. GPL is required to maintain annual and rolling five-year sustainability and development and expansion programs which must be approved by OPM on an annual basis and enforced by the PUC.
- 1.12 **Evolution of UAEP within the reformed sector framework.** GPL, a joint venture owned in equal parts by the Government and the AC Power consortium, was formed in 1999 as result of a competitive bidding process for the capitalization of the fully state-owned Guyana Electricity Company, for an initial 50% shareholding and management control of the new company. The various agreements placed a commitment on GPL to make investments on system rehabilitation and expansion, including electrification of unserved areas. The capitalization process and associated reforms of the legal, regulatory, institutional framework were supported by the Bank's Electricity Sector Program Loan which was successfully implemented and fully disbursed by end-2000 (PR-2163; November 5, 1996). GPL's license and the regulatory contract with the Government among others provided GPL with a distribution franchise covering the entire country, with a provision for the responsible Minister to grant licenses to other suppliers for areas in which GPL is unable to provide the service. GPL's operations are regulated by the PUC.
- 1.13 GPL's performance during the first two years of its existence has been mixed. Small financial surpluses were attained in 2001 largely because of tariff increases, but operating targets for efficiency and service quality improvements and loss reductions were not fully achieved, largely because the utility was unable to raise the financing required to carry out the necessary service improvements. In addition, the PUC was less than fully effective in monitoring and supervision of the utility.
- 1.14 GPL's Development and Expansion Program for the period 2002-2006, which includes capital expenditure of about US\$167 million (in 2001 constant prices), emphasizes rehabilitation and expansion of generating capacity by about 40 MW, interconnection of subsystems, reinforcement of the transmission and distribution networks, and connection of new customers. The bulk of the expansion in generation and of capital expenditure overall is to be undertaken during 2002-04. GPL recently obtained a loan for about US\$18.0 million from the European Investment Bank and has completed negotiations with the National Bank of

Industry and Commerce as local agent of the Republic Bank of Trinidad and Tobago for additional financing for the generation expansion.

- 1.15 GPL's Development and Expansion Program for 2002-2006 also allocates US\$5 million for electrification of unserved areas. While this is an inadequate amount to meet unmet demand, this amount represents the maximum sum GPL is required to commit. In recognition of this and consistent with the provisions of GPL's license, the GOG will provide additional resources to expand and provide electricity to these unserved areas. To that end, the Government and GPL in 2001 agreed on a five-year "Unserved Areas Electrification Programme" (UAEP) to connect in excess of 40,000 new customers in seven of the country's ten administrative regions. The UAEP Program is to be coordinated by the OPM and be financed by contributions from the Government--whose resources would come from this Bank operation and be repaid by the GOG; and GPL amounting to 25% of program expenditures but not more than US\$5.0 million over a five-year period). After the investments are completed, GPL will acquire ownership as well as responsibility for the operation and maintenance of the ensuing assets. The program was initiated in mid-2001 and thus far has resulted in connecting some 1,500 new residential customers.
- 1.16 **Sector Regulation.** PUC is charged with regulating the electricity sector, in addition to the telecommunications sector. PUC was created in 1999 to "...perform the regulatory, investigatory, enforcement and other functions conferred on it..." by the 1999 Public Utilities Commission Act (PUCA). In regard to the electricity sector, ESRA and the 2000 Ministerial Guidelines further clarify PUC's regulatory role, being to: (i) enforce the Operating Standards and Performance Targets/Standard Terms and Conditions for all suppliers, where this forms part of their license, and to regulate OSPT/ ST&C where this is not already covered in a license; (ii) play a detailed, specific role in complaint resolution, enforcement and penalties as outlined in PUCA; (iii) determine rates in a manner prescribed by PUCA and ESRA where this is not included in a license conditions (i.e., in cases other than GPL's) and approve those regulated by license conditions; (iv) undertake an annual review of GPL's rates and adjustment as appropriate; and (v) enforce GPL's commitments under the company's approved development and expansion programs.
- 1.17 The Electrical Inspectors Department (EID) of the Ministry of Public Works is responsible for issuing annual electrical contractors' licenses and for inspecting internal house wirings. Its authority is rooted in several regulations that set out stringent requirements for electrical safety with respect to new and/or altered house or building installations which must be certified safe following inspection and testing for compliance with prevailing standards and prior to the utility connecting the service. These requirements are mandated within the Terms and Conditions of GPL's license and the regulations and technical standards required under ESRA.

- 1.18 Currently, all three entities lack the capacity to effectively regulate the sector, at both the institutional and technical levels, largely because of a severe shortage of human and financial resources. In particular, PUC's current structure is too weak to enforce compliance with the operational terms of GPL's license. Its G\$129 million budget (US\$700,000 equivalent) does not allow PUC to attract and retain qualified staff, let alone meeting information requirements.
- 1.19 **Electricity Tariffs.** GPL's tariffs are determined by financial criteria--i.e., accounting cost--rather than economic criteria, which makes it difficult to assess assets and costs to particular enterprise activities. The current tariff system, which has been incorporated into GPL's License, emerged from the regime in force at the time of GEC's privatization, when tariff levels were increased across all customer categories to meet GPL's financial requirements while leaving the structure of the system unchanged. There are two tariff rates each for residential customers, including a lifeline rate for consumption of less than 100kWh/ month and industrial customers and one each for commercial customers and street lighting. Tariffs are being applied uniformly across GPL's license area. Rates paid by customers reflect GPL's revenue requirements to attain the return stipulated in its license (i.e., 23% on equity; 20% on senior debt).
- 1.20 In order to allow GPL to achieve these returns, the Government had committed during the period January 1999-October 2001 to subsidizing the rates to consumers and to gradually increasing rates charged to meet headline rates by the end of this period. In addition to regular (twice yearly) tariff adjustments aimed at raising actual rates to the level of headline rates, there are adjustments corresponding to changes in import prices of fuels and the exchange rate of the Guyanese currency once these changes exceed 3% in both directions, to be applied with a three-months lag. During the January 1999-February 2002 period, tariff increases in Guyana dollar-denominated prices totaled nearly 100% for residential customers, 89% for commercial customers, and 79% for industrial customers, compared to inflation totaling less than 30% over this period. On the other hand, in 1999-2000, in the wake of petroleum import price increases approximating 150%, costs of thermal electricity generation probably increased by at least 60% and GPL did not fully achieve planned improvements in system efficiency, such that the exchange rate- and fuel price-related adjustments were insufficient to cover increased costs. A series of tariff increases were applied in 2001 and early 2002 which have led to the elimination of the subsidy to GPL. As a basis for establishing a future electricity tariff scheme consistent with economic (long-run marginal) cost of supplies, the Government assisted by the Bank has undertaken an assessment to determine long-run marginal cost of electricity supplies to existing and new customers.
- 1.21 After the interim calculation of 15.89% average tariff increase in February 2002, current energy charges average 17.8 US\$cents/kWh and meet economic costs and GPL's revenue requirements as agreed in the license. Despite this high absolute level, relative prices of electricity remain inadequate as tariffs charged to different customer groups do not reflect their corresponding economic or financial costs of

supplies to these groups: residential consumers incur the highest cost but pay the lowest tariffs, while commercial and industrial customers pay much higher tariffs than their likely economic costs. Thus, residential customers are being cross-subsidized by industrial and commercial consumers. Unbalanced tariffs give incorrect signals to consumers about the true costs of electricity, increase the cost of industrial and commercial operations, and thus, are unsustainable over the long term. In particular, if the discrepancies in the tariff structure persist, subsidies would increase in the way that new residential consumers are added to the system. GPL's license limits tariff rebalancing between customer categories to 5% per annum for all customer groups and larger rebalancing would necessitate changes in the license. The Government has not required GPL to address this issue out of concern about the likely political and popular opposition to above-average increases in residential tariffs which rebalancing would entail, particularly in low income groups.

### **C. The Government's Sector Strategy**

- 1.22 The Government is attaching enhanced importance to providing electricity to rural and isolated areas and has prepared the "Unserved Areas Electrification Programme" (UAEP), a key element of its Poverty Reduction Strategy Paper currently under consultation. This program focuses on preparing and implementing electrification projects, initially through extending existing grids in coastal areas and subsequently, through separate but sustainable generation and distribution facilities in areas where grid extension is not economically feasible. To that end, the Cabinet approved an electrification strategy in May, 2001. Priority is to be given to electrification projects that are close to existing distribution networks, as those projects would be low-cost, reach a large number of additional customers in already consolidated areas and thus, provide larger benefits, relative to isolated regions. OPM currently is developing a web page to further disseminate this strategy to the general public.
- 1.23 While preparing its electrification strategy and related policies, the Government also initiated coordination on UAEP, led by the Office of the Prime Minister and Minister responsible for electrification, and including the Ministry of Housing and Water, the Guyana Energy Agency (GEA), EPA, and the PUC, as well as GPL.

### **D. The Bank's Country and Sector Strategy**

- 1.24 The Bank's country strategy for Guyana was defined in the Country Paper (GN-2014-1) and confirmed in the recent Programming Memorandum (CP 1148-2). This strategy pursues the following overriding objectives: (i) acceleration of socio-economic development under conditions of macroeconomic stability and led by the private sector, and (ii) poverty alleviation through delivery of basic infrastructure services including electricity, which are critical to economic activities and social empowerment by means of sustained improvements in housing, water supply, health, and education. In this process, the Bank is focusing its efforts on: (i) consolidation of structural and economic reforms,

which is a long and complex process and requires its sustained participation; (ii) maximizing the impacts of its operations, including catalytic impacts, through carefully selecting the timing, scope, and design of each intervention; and (iii) supporting operations that are consistent with its goals of poverty alleviation and environmental protection.

- 1.25 The Bank's energy and electricity sector development strategy for Guyana is embedded in its country strategy as well as its global energy strategy approved by the Bank Board of Executive Directors in March 2000. In support of the restructuring and reform of Guyana's energy and electricity sectors, the Bank aims to ensure that the socio-economic, financial, socio-environmental, and political viability of the development of these sectors. In line with these goals, the Bank is pursuing five major objectives: (i) extending modern and cleaner energy options to the entire population at affordable terms; (ii) developing energy production and consumption patterns that are efficient and environmentally sustainable; (iii) promoting the development of new markets for energy efficiency and rural energy, by adopting innovative mechanisms and maximizing the potential for self-sufficiency and replication; and (iv) mobilizing local and foreign capital to finance sector development; and mobilizing foreign expertise to sustain the development process. Extending the electricity system to unserved areas, especially low-income consumers along the coast where the country's population is concentrated, is a key element of the Bank's strategy to support the Government's sector and overall economy reform agenda and to contribute to the over-arching goals of socio-economic development and poverty alleviation.

#### **E. Rationale for Bank Participation and Project Strategy**

- 1.26 The Bank is the principal donor to Guyana, with the longest involvement and broadest experience in the country's electricity sector. As such, the Bank has developed close cooperation with the Government. The Bank's participation in UAEP is a logical extension of its support to electricity sector rehabilitation and reform and would enhance the Program's effectiveness and relevance to Guyana's socio-economic development process. The Bank's strategy for UAEP, which was agreed with the Government, focuses on initially extending service to those coastal regions and customer groups who are likely to incur relatively low costs and attain high socio-economic benefits. At the same time, the options and requirements for sustainable electricity supplies to isolated hinterland communities would be assessed, to be followed by a limited number of pilot demonstration projects to test the scope for a wider program and the feasibility of the viability of an institutional framework benefiting from the experience from the pilot projects. Also, requirements for strengthening the institutions involved in implementing UAEP and for further developing the regulatory and institutional framework in line with expanding the electricity sector would be addressed. The Bank's recent Programming Mission confirmed the Government's priority for electrification and for the proposed Project, included in the Poverty Reduction Strategy Paper.

## **F. Lessons Learned**

- 1.27 With a view to ensuring sustainability of the Government's electrification program to be supported by the Bank, the project design incorporates the experience gained from comparable projects in Guyana and from electrification projects in similar countries in regard to technical-technological, economic-financial, socio-environmental, and institutional-administrative criteria. These primarily relate to: (i) the need for a comprehensive electrification strategy and supporting policies, based on least-cost solutions and project selection according to economic criteria (consumers' ability and willingness to pay; limitation of subsidies to a portion of investment costs, with tariffs fully covering operating and maintenance costs); (ii) an appropriate legal and regulatory framework and competent institutions, to ensure that government policies are carried out and targets are met; (iii) meaningful consultation with stakeholders to ensure their participation in decision making and active support in project implementation and subsequent operation; (iv) participation of private sector entities to provide managerial competence in executing investments and operating expanded systems as well as supplementary financing; and (v) support by international donors for project preparation, implementation, and funding. The private sector would be involved in UAEP to the feasible extent, especially GPL in coastal electrification. Consistent with these lessons, a Bank Project Preparation Facility (PPF; GY-0067) amounting to US\$250,000 was approved in September 2001 and has supported the preparation of project activities.

## **II. The Project**

### **A. Objectives and Description**

- 2.1 The Project supports the Government's socio-economic development and poverty alleviation strategy, through strengthening the legal, regulatory, and institutional framework and providing the financial resources required for accelerated electricity sector development and extension of service to currently unserved consumers. In so doing, the Bank will focus its efforts on (i) consolidating structural reforms in the electricity sector; (ii) maximizing the impact of Bank operations overall, including their catalytic impact, through carefully selecting the design, scope, and timing of interventions; (iii) promoting the development of markets for energy efficiency; (iv) promoting rural energy development through adopting innovative mechanisms and maximizing the potential for self-sufficiency and replication; and (v) putting poverty alleviation and socio-environmental protection at the center of its interventions in the sector.
- 2.2 Project implementation will be coordinated by OPM. The investment component will be implemented by GPL. Sub-projects under this component will be selected based on criteria ensuring economic-financial, socio-environmental, and institutional-administrative feasibility, as defined through a study undertaken by experienced consultants. In the interest of its smooth implementation, the project would be coordinated with other infrastructure projects and providers (e.g., for water, telecommunications, and transport). Close coordination will be established with related initiatives by the Bank, and other donors to ensure synergies, enhance the developmental impact of the overall Bank program in Guyana, and foster catalytic effects.
- 2.3 The Project comprises three components, all of which will be implemented over a five-year period:

#### **1. Investment component (US\$27.7 million)**

- 2.4 This component will finance the Government's contribution as part of the 75% supplementary funding to a self-contained program to provide 40,000 connections in currently unserved areas over the 2002-06 period, as stipulated in GPL's License. These areas comprise new housing schemes including township developments, pre-urban squatter settlements in the process of rehabilitation, and villages and other settlements in the process of being regularized. The Ministry of Housing and Water has identified in excess of 221 sites in seven of the country's ten administrative Regions, i.e., coastal regions 2, 3, 4, 5, and 6 and inland regions 7 and 10, comprising 58,975 lots and has slated them for electrification. An estimated 40% of the coastal population currently is without electricity supplies, including dwellers in new peri-urban housing developments. Activities under this component comprise: (i) the extension of 13.8kV distribution lines totaling about 200 kilometers and their connection to the 69kV transmission system, but excluding investments in associated transmission lines and generation; (ii)

service connections for approximately 40,000 housing lots in the vicinity of Georgetown and other coastal areas close to existing grids, and (iii) project administration activities including a dedicated unit with implementation and construction managers, construction supervisors, procurement, accounting and administrative support, and design, drawing and surveying services. Total investment costs include connection costs (meters, meter boxes and service lines); distribution network costs (poles, transformers, conductors, connectors, medium voltage switches, low voltage cut outs, insulators, performed wraps, and general line hardware); and project administration and contingencies. On the basis of the results of a household energy survey conducted during project preparation, the team projects the new customers' electricity consumption at 60-100kWh/ month and annual consumption growth at 1.0-2.5% depending on household income levels and regions. Connections would initially be in built-up and populated areas where relative to other areas, connection costs are on average about US\$690, economic activities buoyant, and consumers' ability and willingness to pay assured, even though most new customers would be low income.

- 2.5 This component is aimed at optimizing investments, by ensuring that: (i) least-cost solutions are applied and sub-projects are selected based on proper economic-financial analysis including consumers' ability and willingness to pay and the sub-projects' economic internal rate of return (EIRR); and (ii) subsidies to consumers are limited to a portion of investment costs, with tariffs fully covering operating and maintenance costs, consistent with Bank policy on subsidization and cost recovery. Estimates confirm that additional generating capacity required to supply new customers would be in the range of 15-20 MW, and would be provided by GPL as part of its ongoing development and expansion program.

## **2. Hinterland project preparation component (US\$4.5 million)**

- 2.6 Little information is available on the size and location of hinterland populations, their energy access and use patterns, and local energy resources. This component will ascertain a set of technical, institutional, and socio-environmental guidelines, procedures, and criteria, following EPA guidelines, in order to establish a sustainable institutional framework for the electrification of isolated and remote areas where the extension of existing grids would not be feasible. To that end, this component will finance: (i) studies of options and requirements for economically, socio-environmentally, and institutionally-administratively viable schemes for serving isolated communities with electricity, that take full account of the basic socio-ethnic and cultural features of the local populations, with a view to recommending sustainable institutional and financing schemes for future project development; (ii) at a later stage--approximately after year-2 of project implementation--and based on the results of the evaluations, three to five demonstration projects in selected areas and applying representative technologies and locally available energy resources, with a view to testing their feasibility and possible replication at a later stage; (iii) measures necessary to comply with the requirements for consulting local populations and other stakeholders on relevant projects to ensure that social, cultural and ethnic characteristics of the population

are properly addressed, and that these communities participate in decision-making throughout the project cycle; (iv) creation and operation of mechanisms for monitoring and evaluating the implementation of the technical, economic-financial, and socio-environmental aspects of the demonstration projects, including technical assistance to OPM, EPA, and other relevant institutions to coordinate these tasks and eventually carry them out; and (v) outside supervision of the environmental and social aspects of this component especially the demonstration projects through qualified independent specialists. The studies under this component will include the review of various ongoing methodologies and best practices for community participation in the country. They would also assess the applicability of the current legal, regulatory and institutional framework to hinterland schemes, identifying any modifications needed to adapt this framework to different requirements, and would include, if necessary, a socio-environmental evaluation following country legal and regulatory requirements.

### **3. Institutional strengthening and capacity-building component (US\$1.5 million)**

- 2.7 This component will finance: (i) project management activities at OPM, including the creation and operation of mechanisms to monitor and evaluate the implementation of the technical, economic-financial, socio-environmental, and institutional-administrative aspects of the individual project components, including the hinterland demonstration projects; and the strengthening of the PUC, EPA; and EID; (ii) training required for UAEP's successful implementation; and (iii) if necessary, legal, regulatory, and institutional reforms to support the viability of UAEP. Sector agencies will receive technical and institutional assistance so that they consolidate their capacity to comply with their current obligations and effectively support project implementation. Since GPL's workforce supported by contractors currently is primarily engaged in rehabilitating the existing system and executing related investments, this component would also support relevant vocational training to meet the proposed electrification targets.

### **B. Project Cost and Financing Plan**

- 2.8 Total project costs are estimated at US\$34.4 million. The Bank will finance US\$27.4 million from its available Fund for Special Operations (FSO) resources. This amount includes the US\$0.25 million Project Preparation Facility (PPF) approved in September 2001 (GY-0067). Counterpart funding of US\$7 million will come from: (i) US\$5 million from GPL, which is expected to contribute this amount according to its investment commitment under its license; and (ii) US\$2 million from the new 40,000 customers through fees averaging US\$50 per connection. The GOG will be ultimately responsible for providing the entire counterpart funding. The following is a summary of project costs and financing source:

**Estimated Total Project Costs and Financing Sources (in US\$ thousands)**

<b>INVESTMENT CATEGORY</b>		<b>IDB</b>	<b>LOCAL</b>	<b>TOTAL</b>	<b>%</b>
<b>1.</b>	<b>Investment Component</b>	<b>20,852</b>	<b>6,863</b>	<b>27,715</b>	<b>80.6</b>
1.1	Project Administration (GPL)	1,909	-	1,909	
1.2	Sub-Projects *	16,230	6,022	22,252	
1.3	Furniture	50	-	50	
1.4	Vehicles	50	-	50	
1.5	Computer equipment & software	-	75	75	
1.6	Financial and Operational Audits **	250	-	250	
1.7	Contingencies	2,363	766	3,129	
<b>2.</b>	<b>Hinterland Project Preparation</b>	<b>4,500</b>	<b>-</b>	<b>4,500</b>	<b>13.1</b>
2.1	Consultancies	200		200	
2.2	Engineering Studies	300		300	
2.3	Demonstration Projects	3,350		3,350	
2.4	Independent Supervision	63		63	
2.5	Contingencies	587		587	
<b>3.</b>	<b>Institutional Strengthening and Capacity Building</b>	<b>1,500</b>	<b>-</b>	<b>1,500</b>	<b>4.4</b>
3.1	Project Management (OPM)	745		745	
3.2	Tech. Assistance PUC, EPA, EID	150		150	
3.3	Studies, Consultancies	30		30	
3.4	Monitoring and Evaluation	200		200	
3.5	Capacity Building at EID	200		200	
3.6	Legal and Regulatory Reforms	40		40	
3.7	Ancillary Expenditures	50		50	
3.8	Contingencies	85		85	
<b>4.</b>	<b>Financial Costs</b>	<b>548</b>	<b>137</b>	<b>685</b>	<b>2.0</b>
4.1	Inspection and Supervision	274		274	
4.2	Interest	274		274	
4.3	Credit Fee	-	137	137	
<b>TOTAL</b>		<b>27,400</b>	<b>7,000</b>	<b>34,400</b>	<b>100.0</b>
<b>Percentages</b>		<b>79.7</b>	<b>20.3</b>	<b>100.0</b>	

\* Includes US\$0.25 million allocated through PPF-GY0067

\*\* includes resources for conducting financial and operational audits of the investment component, and financial audits of the hinterland project preparation and institutional strengthening and capacity building components.

### III. Project Implementation

#### A. The Borrower, Guarantor and Executing Agency

- 3.1 The borrower and guarantor is the Government of the Cooperative Republic of Guyana, represented by the Ministry of Finance. The overall executing agency of the Project is the Office of the Prime Minister, which is at the same time the Minister responsible for the electricity sector (OPM).

#### B. Project Implementation and Administration

- 3.2 Project implementation will entail two levels: the strategic level and the operational level.
- 3.3 **Strategic Direction.** At the strategic level, the Government has established a high-level working Project Steering Committee to provide guidance on strategic and policy issues related to UAEP including recommendations on program and project priorities, and to monitor progress of project preparation and implementation according to the agreed schedule. The Committee is composed of the Prime Minister as Chairman, representatives of the Ministry of Finance, Ministry of Housing and Water, Ministry of Local Government, GPL, and the Principal Project Coordinator as its Secretary. The Steering Committee is expected to provide transparency in decision-making, facilitate communication between the public and private sector participants in UAEP, and enhance public awareness about the Program. **Prior to the first disbursement**, the formal appointment, composition and functions of this Committee will be confirmed.
- 3.4 **Operational-Executive Level and Overall Project Coordination** The Executing Agency will be OPM. The Principal Project Coordinator will be placed, with responsibility for overseeing all project components and ensuring their successful implementation, supported by a project implementation unit (PIU) at GPL (co-executor) for implementing the investment component ([para. 3.6](#)) and a smaller support unit within OPM (PIU at OPM). The Principal Project Coordinator's responsibilities comprise: (i) coordination within Government, with GPL, the Bank, and contractors; and (ii) monitoring and supervising the activities of the project implementation unit at GPL to ensure that the Project achieves its overall and annual targets. Principal project coordination further includes matters related to the selection of lots to be electrified and scheduling of works; resolution of actual and potential conflicts and implementation delays at the operational level. The already-appointed Principal Project Coordinator, who currently serves as Electricity Regulatory Advisor to the OPM, is a professional with required experience in electricity sector and public administration issues. Support will be provided by a small professional staff consisting of an economist/engineer, and a financial/procurement/administration professional. Consultants' support will be obtained as required to ensure that the project adequately addresses socio-environmental concerns. The Principal Project Coordinator will be directly

- responsible for the hinterland project preparation and institutional strengthening and capacity building components, given their over-arching nature.
- 3.5 Given the magnitude of the investment component, there is a need for a dedicated PIU at GPL, which will coordinate day-to-day operations, and maintain the necessary contacts and coordination with other utilities and public works on location of the relevant utility features, and attend to improving relations with the Government and the Bank. The PIU will be headed by a full-time engineer as project manager, and will also comprise a construction manager, a design specialist, an experienced technician for on-site inspection and supervision of line work and service connections, and a financial controller for maintaining the special project accounts including records for both project expenditures and institutional and customer financial contributions. The PIU would be supported by GPL's Environmental Coordinator, who would be responsible for liaison with EPA on the implementation of GPL's Environmental Management System (EMS).
- 3.6 As Executing Agency, OPM will establish adequate accounting and financial controls and documentation filing systems, maintain necessary records, and will submit quarterly progress reports to the Steering Committee and the Bank. **Prior to the first disbursement**, OPM shall present for the Bank's approval evidence that the Principal Project Coordinator has been formally designated, and that the project implementation unit at OPM has been established (PIU at OPM); and that the PIU at GPL: (i) is fully staffed; (ii) has established financial management systems to carry out their relevant project activities; and (iii) has a budget that includes the counterpart funds for the Project for the first year.
- 3.7 EPA and other institutions and civil society groups involved in hinterland electrification will closely participate in implementation of the hinterland project preparation component throughout the project cycle. A monitoring and supervision system will be established to evaluate, adjust, and, possibly, replicate demonstration projects as implementation proceeds. OPM, PUC, EPA, and EID will actively participate in implementing the institutional strengthening and capacity building component since they will be the main beneficiaries of the assistance extended through this component. Technical assistance will be provided to develop procedures, professional and vocational training, information and communications technology equipment, establishment of financial and management information systems, public consultations, socio-environmental impact assessments as appropriate, and specific environmental supervision of all components.
- 3.8 **Project agreement between the GOG and GPL.** In order to clarify the contractual relationship between the Government and GPL in regard to the investment component, the Government has agreed that the respective obligations and rights should be determined through a separate agreement, without involving the Bank in a direct relationship with a private sector entity. The GOG will negotiate a project agreement with GPL --which will be a condition **prior to first**

**disbursement** and--would cover among others: (i) a definition of the project's investment component, implementation schedule, determination of costs, selection criteria, electrification targets, and financing arrangements; (ii) GPL's obligations, in respect of execution of works, implementation capacity, contractor relationships, maintenance of UAEP-related equipment and works, tariff action subject to PUC approval, including rebalancing within the full extent of the license with less than full rebalancing considered only for lifeline rates, environmental and social management, financial, operational and other reporting, financial and operational independent auditing, and plan for future operations of project-financed installations, in compliance with Bank policies and procedures; (iii) confirmation of overall GOG obligations in regard to transfer of funds and general support to project implementation; (iv) conditions of execution of works, including procurement responsibilities at the operational level; (v) conditions of disbursement of project funds; (vi) operational performance; (vii) proper coordination with other public utilities and works; (viii) availability of required generation and other related investments; and (ix) arbitration arrangements.

- 3.9 **Selection criteria for subprojects under the investment component.** In implementing UAEP, care will be taken that the underlying investments are least-cost and provide maximum impact in terms of ultimate beneficiaries and project quality. In order to ensure consistency and discipline in the investment choice, the Government supported by the Bank's PPF GY-0067 commissioned as part of project preparation a study on technical, economic-financial, socio-environmental, and institutional-administrative criteria for selecting sub-projects. This study has established realistic estimates of: the market for electricity in currently unserved areas based on energy consumption surveys, and of consumers' ability and willingness to pay.
- 3.10 As a result of the above study, the following **selection criteria** have been determined for eligibility of individual UAEP sub-projects, in regard to scope, composition, location, and sequence during the five-year project period. These selection criteria will be included in the GOG-GPL project agreement:
- (i) **Socio-Economic.** The primary selection and ranking will be made on the basis of the subproject's EIRR. Only projects that achieve an EIRR of at least 12% under the stated assumptions should be selected. Those with highest EIRRs will generally be selected for electrification first, subject to the other criteria detailed below. Also, no sub-project will be implemented where the average connection cost per household, including the cost of service connection is above G\$200,000 (about US\$1,000).
  - (ii) **Logistical/Practical.** Since there are a number of Greenfield housing schemes, as a rule, only housing schemes that can provide connections to a minimum of 50% of the available housing lots will be selected. In those cases where the number of lots is very large, the scheme will be divided into a number of discrete phases and each will be evaluated separately. Where housing schemes are developed in phases, the second and

subsequent phases will not be implemented until the previous phase(s) has been completed. However, as an exception to the rule set forth above, and in order to give due consideration to other ongoing basic infrastructure and social development programs in low-income areas and promote synergies and maximum developmental impact, starting in year 3 of the Program, and after 20,000 connections in areas with a minimum of 50% population have been made, the 50% minimum limit set forth above will be reduced to 25%, giving preference to the most populated areas. In all cases, the socioeconomic, geographical, and village and squatter scheme selection criteria set forth in (i), (iii) and (iv) of this paragraph must be met.

- (iii) **Geographical.** Although the primary selection will be made on the basis of EIRR, consideration will be given to providing a reasonably equitable spread of viable sub-projects between the different regions.
  - (iv) **Village and squatter schemes.** Titles to lots in village and squatter schemes will be regularized before any subprojects are selected for electrification.
- 3.11 In order to facilitate the selection process during implementation, the following models have been developed during project preparation and will be used by PIU staff: (i) a load forecast model; (ii) an economic model to calculate economic internal rate of return (EIRR) and NPVs; (iii) a financial model to calculate financial internal rate of return (FIRR); and (iv) a financial model of GPL. These models will be refined and updated as more specific subproject data becomes available over time. Also, connections under the UAEP will be assigned a discrete identifier within the GPL billing system so that the GOG, Bank and other stakeholders can monitor the performance of the sub-projects against the planning criteria and incorporate the lessons learned into the planning of future electrification projects.
- 3.12 **Subsidies.** Most new customers to be connected to electricity under UAEP are poor, with monthly incomes well below US\$200 per family, and thus unable to pay up-front more than a small portion of the connection cost plus the current cost of electricity supplies. The Government has decided to subsidize the bulk—about 93%-- of the capital cost of new supplies to new customers through making a direct contribution to UAEP of about US\$1.1 million (G\$200 million equivalent) and allocating about US\$20.86 million from the Loan proceeds, in addition to GPL's maximum contribution of US\$5 million. Customer contributions to financing relevant capital costs are limited to US\$50 per connection, compared to an average total capital cost of approximately US\$695 per connection—, project administration and 15% contingencies. On the basis of these estimates, capital subsidies from the Government plus the contribution from GPL would total US\$25.725 million for 40,000 connections. However, there will be no additional subsidies to customers because the latter will pay the same tariff as existing customers do and tariffs will continue to be adjusted to levels at which they cover economic costs of electricity supplies.

- 3.13 The approach chosen by the Government is consistent with the Bank's Public Utilities Policy since it concentrates on the use of subsidies in facilitating access to the service and reducing fixed charges to the poor and is based on an explicit justification of the chosen socio-economic objective as laid out in the GOG's electrification strategy approved by Cabinet; (ii) a procedure ensuring a viable mechanism for mobilizing the necessary funds through external public borrowing and ultimately, general taxation and (iii) a transparent mechanism to allocate subsidies to the target groups by means of financing the capital costs of sub-projects, which will be monitored through project implementation and related disbursements. As a result of this approach, there will be no additional cross-subsidies between consumer groups, and subsidies will be direct and focused on facilitating access to electricity by reducing up-front investment charges to the poor, rather than reducing the variable part of the tariff.
- 3.14 These investment subsidies are justified on economic as well as social grounds. Economic benefits would be generated mainly through substitution of inefficient, costly, and polluting energy sources (primarily petroleum products) and welfare enhancement for beneficiaries as result of regular and reliable electricity supplies. Financial benefits accruing to GPL would be associated with the reduction of (financial) investment cost to GPL as result of government and loan contributions to financing new connections. At the envisaged tariff levels peaking at US\$0.198/kwh in 2005-06 (2001 prices and exchange rates) and consumption by new customers averaging 80kwh/month and increasing at 2-3% p.a., the EIRR for UAEP would be in the range of 19.7% (base case; 15.9% in the most pessimistic case) and the FIRR for GPL, 33.5%, due to the large proportion of capital subsidies in financing new connections.

### C. Procurement of Goods and Services

- 3.15 In procuring goods and services financed by the Bank, project implementation units will adhere to the basic Bank procurement policies and procedures. International competitive bidding will be used for all works exceeding US\$1.0 million, for goods and services valued at more than US\$350,000, and for consulting services in excess of US\$200,000. For procurements below these threshold amounts, national competitive bidding will be applied. Government regulations in Guyana require public tender for contracts for goods and services exceeding G\$750,000 (US\$4,100 equivalent). GPL has established its procurement policy on the basis of the Bank's policy and procedures. Annex II presents the procurement plan prepared by GPL, GOG and the Bank.
- 3.16 In order to avoid implementation delays, the GOG has advertised for expressions of interest in the UN Development Business prior to loan approval. GPL has initiated the procurement of works, goods, and services required for the project, following Bank procurement procedures and policies. The nature of the project and the anticipated pace of work point to the expediency of **retroactive financing** of US\$2.74 million equal to 10% of the loan amount to cover expenditures incurred in the provision of equipment, works and services associated with the

investment component 12 months prior to the approval of this loan by the IDB Board of Directors.. Additionally, the Bank will **recognize expenditures** since March 30, 2001 of up to the equivalent of US\$700,000--equal to 10% of the total local counterpart--as part of the local contribution expenditures. In both retroactive financing and recognition of expenditures, the amounts will be recognized, provided that Bank policies and procedures have been substantially followed. Also, **a revolving fund** of up to US\$1.72 million--equal to 5% of total program costs--will be established to ensure an adequate level of cash flow to cover projected expenditures.

#### **D. Financial Management**

- 3.17 OPM as Executing Agency will have overall responsibility for project implementation. OPM's specific responsibilities will include: (i) submitting disbursement requests to the Bank, including corresponding justification of expenditures; (ii) maintaining adequate financial, accounting, and internal control systems that allow identification of sources and uses of project funds, provides documentation to verify transactions, and permits the timely preparation of financial statements and other financial reports; (iii) preparing and submitting periodic financial statements of expenditures, and accounting reports to the Bank; and (iv) maintaining an adequate disbursement and contracting supporting documentation filing system for eligible project expenditures.
- 3.18 In turn, through the GOG-GPL project agreement, GPL's PIU will be responsible to GOG for: (i) maintaining adequate financial, accounting, and internal control systems that allow the identification of sources and uses of project funds, provides documentation to verify transactions, and permits the timely preparation of financial statements and other financial reports; (ii) preparing and submitting periodic financial and auditing reports to OPM; and (iii) maintaining an adequate disbursements and contracting supporting documentation filing system for eligible project expenditures. GPL has opened two separate accounts in a commercial bank to deposit the proceeds from the Bank loan channeled through the Ministry of Finance and from local counterpart funds including its own cash contributions to the investment component of the Project, and to make UAEP-related payments. The project accounts will be kept strictly ring-fenced from GPL's other accounts.
- 3.19 Accounting procedures applied by GPL to the GOG contribution to the project will be such that neither the tariff base nor the return on equity will be affected, since these contributions will be amortized and be excluded from GPL's assets (Schedule 1, Part D of the License). GPL's independent firm of accountants has confirmed the following as the procedure to be applied for the treatment of GOG contribution: (i) upon receipt and investment of GOG contribution, fixed assets would be debited and GOG's contribution would be credited such that the rate base would exclude fixed assets/additions which are funded by the GOG. In the computation of allowable fixed assets included in the calculation of the rate base (included in the license), the unamortized balance on the GOG's contribution account would be deducted from the fixed assets. GOG's annual contribution

towards capital expenditures would be deducted from capital expenditure in those years. Upon use and depreciation of fixed assets funded by the GOG, the following would apply: first, in order to account for depreciation of the assets, depreciation would be debited, and the provision for depreciation credited; second, in order to amortize the GOG contribution, GOG's contribution would be debited, and depreciation credited. The effect is that the depreciation charge on these assets would not lead to a reduction in profits as the annual amortized portion of the GOG contribution will offset the depreciation charge. By following this procedure, the GOG contribution will not impact on the rate base and will not result in increased tariffs.

- 3.20 The Executing Agency shall submit to the Bank annual financial statements for all project components of expenditures regarding the use of the Bank's contribution, within 120 days after the end of each financial period. These statements, for all project components, will be audited by an international firm of independent public accountants acceptable to the Bank. Furthermore, the Executing Agency will expand the scope of work of the same auditors to include an operational audit of GPL for the investment component, to be performed at the same time as the financial audits. The results of these audits shall be reported separately and submitted to the Bank at the same time as the financial audit reports. Audits will be performed under terms and reference to be previously approved by the Bank and will follow international standards and Bank policy and guidelines on audits. The audit firm will be contracted for a period of at least three years, subject to a contractual termination clause in case of inadequate performance, and will be selected in accordance with the Bank's audit bidding procedures.

**E. Execution and Disbursement Schedule**

- 3.21 Project implementation and loan disbursements will largely be driven by the implementation of the coastal electrification sub-projects supported by the investment component, which will be carried out over the 2002-06 period. The hinterland project preparation component is expected to start at the same time but would only gain momentum only after the second year of project implementation following completion of basic studies and the definition and approval of a strategy for sustainable electrification. Implementation of, and related disbursements for, the institutional strengthening and capacity building component will commence early, as the success of the overall project hinges on early capacity building and institutional strengthening.
- 3.22 On the basis of these assumptions, Bank disbursements are estimated as follows:

**Schedule of Annual Investments and Estimated Disbursements (in US\$ thousands)**

<b>INVESTMENT CATEGORY</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>TOTAL</b>
<b>1. Investment Component</b>	<b>4,634</b>	<b>4,854</b>	<b>5,074</b>	<b>5,074</b>	<b>1,216</b>	<b>20,852</b>
1.1 Project Administration (GPL)	213	424	424	424	424	1,909
1.2 Sub Projects	4,010	3,740	3,945	3,945	590	16,230
1.3 Furniture	35	15	-	-	-	50
1.4 Vehicles	50	-	-	-	-	50
1.5 Computer equipment & software	-	-	-	-	-	-
1.6 Financial and Operational Audits	50	50	50	50	50	250
1.7 Contingencies	276	625	655	655	152	2,363
<b>2. Hinterland Project Preparation</b>	<b>230</b>	<b>345</b>	<b>1,110</b>	<b>1,763</b>	<b>1,052</b>	<b>4,500</b>
2.1 Consultancies	200	-	-	-	-	200
2.2 Engineering Studies	-	300	-	-	-	300
2.3 Demonstration Projects	-	-	950	1,500	900	3,350
2.4 Independent Supervision	-	-	15	33	15	63
2.5 Contingencies (15%)	30	45	145	230	137	587
<b>3. Institutional Strengthening and Capacity Building</b>	<b>311</b>	<b>505</b>	<b>366</b>	<b>159</b>	<b>159</b>	<b>1,500</b>
3.1 Project Management (OPM)	141	151	151	151	151	745
3.2 Tech. Assistance PUC, EPA, EID	50	50	50	-	-	150
3.3 Studies, Consultancies	20	10	-	-	-	30
3.4 Monitoring and Evaluation	50	100	50	-	-	200
3.5 Capacity Building at EID	-	100	100	-	-	200
3.6 Legal and Regulatory Reforms	-	40	-	-	-	40
3.7 Ancillary Expenditures	40	10	-	-	-	50
3.8 Contingencies (10%)	10	44	15	8	8	85
<b>4. Financial Costs</b>	<b>108</b>	<b>110</b>	<b>110</b>	<b>110</b>	<b>110</b>	<b>548</b>
4.1 Inspection and Supervision	54	55	55	55	55	274
4.2 Interest	54	55	55	55	55	274
4.3 Credit Fee	-	-	-	-	-	-
<b>TOTAL</b>	<b>5,283</b>	<b>5,814</b>	<b>6,660</b>	<b>7,106</b>	<b>2,537</b>	<b>27,400</b>

## **F. Monitoring and Evaluation**

- 3.23 Implementation will be monitored primarily by the Principal Project Coordinator, supported by an outside specialist for supervising the operational aspects of the hinterland project preparation component, especially in regard to its socio-environmental issues. During the first year of implementation, the program will require close supervision therefore regular meetings will be held to review the progress of project implementation between representatives of the Bank, OPM, and the other beneficiary sector entities. Depending on progress during the first year, the periodicity of these review meetings may be reduced.
- 3.24 The Bank will conduct annual reviews to evaluate progress in the implementation of the various components. Emphasis will be placed on reviewing compliance with all aspects of the GOG-GPL project agreement in particular progress and fulfillment of the selection of sub-projects according to the criteria, tariff rebalancing to the full extent of the license, adequacy and availability of GPL's generation and transmission expansion capacity, and the socio-environmental aspects and impact of the hinterland project preparation component. A mid-term evaluation will also be undertaken within 30 months of project implementation. A final evaluation will take place at the end of program execution in accordance with Bank guidelines. Both the mid-term and final evaluations will be comprehensive since they will analyze outcome indicators as well as process indicators such as community participation in decision-making during project implementation. All consumers connected under the UAEP will be metered as provided for in GPL's Standard Terms and Conditions. In order to measure outcome indicators for the investment component, GPL will place a special marker/indicator in the new connections to identify consumers connected under the UAEP. The data obtained from GPL will be used to measure the relevant outcome indicators.
- 3.25 On the basis of the logical framework (Annex I) and all other aspects of the program, the GOG has developed a monitoring and evaluation framework, which will be used extensively during implementation. This framework, developed with the support of a specialized consultant, includes budget allocation for each activity, targeted completion date, performance indicators and outputs, means of verification, responsible PIUs and relevant stakeholders, and reporting requirements. Since the Principal Project Coordinator will have primary responsibility for monitoring and evaluation activities, the required funding for this activity has been included under the project management category in the institutional strengthening and capacity building component. In view of the nature of the hinterland project preparation component, resources have also been included for the creation and operation of mechanisms for monitoring, evaluation and supervision of the technical, economic-financial, and socio-environmental aspects of the demonstration projects, including technical assistance to OPM, EPA, and other relevant institutions to coordinate these tasks and eventually carry

them out; and for outside supervision of this component especially the demonstration projects through qualified independent specialists.

**G. Ex-post Evaluation**

- 3.26 The Bank team has consulted with GOG about an ex-post evaluation of the program, and the GOG has decided not to carry out this evaluation. Nevertheless, the team considers that the annual, mid-term and final evaluations should provide more than sufficient means to assess progress and impact of the project.

## IV. Viability and Risks

### A. Technical Viability

- 4.1 All the areas scheduled for connection under UAEP are located close to GPL's existing distribution grid. A load forecast of a technical study undertaken in preparation of the Project indicates that by 2010, the consumers connected under UAEP should add 19-20MW and approximately 58GWh to GPL's system. The increased generation required has been included in GPL's current development and expansion program, and is planned to be met in the medium term by adding three 10MW medium-speed diesel generators. Additional transmission capacity is also being planned by GPL in its investment plan. Financing for both the generation and transmission investments is to be provided through an US\$18 million loan from the European Investment Bank. The costs of developing the distribution systems in the sub-project areas will depend upon the number of connections required, and the size and layout of the areas. Overall, it has been concluded that the 40,000 connections in currently unserved areas under UAEP are technically feasible.

### B. Institutional Viability

- 4.2 **Project Implementation.** Precautions have been taken to ensure that the entities participating in project preparation and implementation are committed to the program objectives and are competent to comply with their tasks. Primary responsibility for the Project would rest with OPM, the principal entity of the executive branch of Government, which also oversees the electricity sector. The designated Principal Project Coordinator, who currently also has the function of Electricity Regulatory Advisor to the Prime Minister, has the experience and authority to exercise both responsibilities. GPL, the entity responsible for implementing the largest project component, has an experienced management team and is in the process of strengthening its operations, including environmental management, although weaknesses remain to be overcome. In implementing the hinterland project preparation component, the Principal Project Coordinator will be supported by a competent specialist with adequate experience in this field.
- 4.3 **Sector Regulation** The expansion of the electricity sector as result of UAEP could aggravate the current weaknesses faced by the sector regulatory entities in exercising their functions such that these could adversely affect the implementation of the Project. Therefore, the institutional strengthening and capacity building component will provide technical assistance to PUC to upgrade its capabilities to monitor, and ensure compliance by, GPL with performance criteria, including through benchmarking (comparison with the performance of other electric utilities) and to advise on issues related to the resolution of current and future sector operations by entities other than GPL. PUC will need assistance in: (i) recruiting a qualified electrical engineer to undertake day-to-day activities

commensurate with its role and responsibilities in sector regulation, primarily the monitoring and enforcement of GPL's Operating Standards and Performance Targets/Standard Terms and Conditions; and (ii) appointing a regulatory expert under a technical assistance and/or twinning arrangement contract, to set in progress the internal strengthening program.

- 4.4 EID will receive assistance in: (i) training of staff so as to upgrade their knowledge and skills base to ensure that they are up to date with local regulations and international technical standards; and (ii) appointment of an expert to provide training and strengthen the technical knowledge and capacity within the entity. The relationship between the Division's central and regional administrations will need to be rationalized in order to harmonize practices and standardize skills and operations through a systematic interchange of staff.
- 4.5 Support to EPA will be provided through assistance in (i) strengthening staff capacities for environmental monitoring related to UAEP, and (ii) concluding twinning arrangements with other regional environmental protection agencies. The Project also would provide technical assistance to EPA to equip the entity to effectively monitor compliance by GPL and other electricity suppliers with environmental guidelines and norms, based on self-regulation by these entities and Bank-approved terms of reference for this activity. In addition, assistance would be provided to assess the requirements for modifying the legal and regulatory framework of the sector associated with large-scale electrification of new areas.

### **C. Socio-Economic Viability**

- 4.6 At this stage, the conditions exist in the project areas for economically viable electrification, and access to infrastructure services especially electricity is likely to give a strong impetus to their socio-economic development. Important socio-economic benefits are likely to derive from electrification, through increases in income, savings, expanded education opportunities and improved social welfare associated with electricity supplies including reducing discrepancies between currently served and unserved areas and improved quality of life especially for women and children. In addition, the opportunity value of energy alternatives saved by using electricity needs to be considered, which often is higher than the cost of electricity itself. According to preliminary estimates, EIRR for the investment component averages 19.7%, ranging from 19.3% to 20.2% depending on the size and location of sub-projects. The highest returns are likely to be attained for sub-projects with the highest density of consumers and the shortest distance to existing distribution grids. According to the household energy survey carried out in preparation of the project, currently unsupplied householders are prepared to pay for electricity at the present GPL residential tariff total, which is equivalent to 10-14% of these households' income.

**D. Financial Viability**

- 4.7 The financial viability of the Project is largely determined by its impact on GPL's financial position. The proposed loan will finance 75% of costs related to the sub-projects and will be serviced by the Government. GPL also will be reimbursed for its UAEP-related overheads. On the other hand, the company will have to assume the relevant operation and maintenance costs of the extended system estimated to total US\$7.4 million over 2002-06, compared to total revenues from new customers estimated at US\$13.8 million equivalent over the same period. In 2001, GPL attained net income of about US\$2.3 million, on operating revenue of about US\$55.9 million.
- 4.8 For GPL's overall financial projections for the 2002-06 period, the following assumptions have been made: (i) investment in generation, transmission, and distribution totaling US\$125million; (ii) electricity sales growth to average 5.8% p.a.; (iii) target rate of return on equity increasing from 21% to 23%, and interest rate on long-term debt declining from 15.8% to 13%; (iv) allowable rate of return on equity and long-term debt combined to be approximately 18%; (v) modification of the debt-equity ratio from 40-60 to approximately 50-50; and (vi) cost efficiency measures through reduction of technical and administrative losses, reduction of operation and maintenance (especially labor) costs, and reduction of accounts receivable. In regard to the impact of UAEP, it is assumed that the current tariff-setting methodology contained in GPL's license will continue to be applied, and that GPL's costs increase in line with sales and inflation. On that basis, UAEP's impact during 2002-06--both on GPL's financial position and its tariff requirements--is projected to be very limited: the reduced level of cost recovery expected from UAEP consumers would result in a reduction of only 0.4%, on annual average, in GPL's forecast returns, whereas UAEP-related expenditure would necessitate tariff increases of 2.9% over February 2002 levels for the entire period to attain its revenue and return targets. Even assuming higher than projected investment costs--as the largest single risk associated with UAEP--of 20%, during 2002-06, the maximum additional reduction of GPL's rate for return is projected to average 0.5% and requirements for higher tariffs, 3.3%. All figures are based on 2001 constant prices.

**E. Socio-Environmental Viability**

- 4.9 The Project will have net positive socio-environmental as well as socio-economic impacts on the sub-project areas and the country as a whole. The investment component will finance the extension of distribution lines and house connections that would bring reliable electricity to poor communities, creating stable conditions for enhanced economic activities to help alleviate poverty and raise living standards. Electrification of coastal and hinterland areas will ultimately result in the provision of cleaner energy to areas not previously supplied with electricity, which will allow the substitution of kerosene, liquefied petroleum gas,

- and firewood as energy sources for lighting and cooking and the corresponding improvements in the overall quality of life. At the individual level, life quality improvements for new electricity users include (i) improved home lighting including improved security and conditions for home learning, other productive activities, and leisure; (ii) improved access to labor-saving appliances; (iii) reduced noxious air emissions from kerosene use and decreased levels of respiratory tract infections; (iv) reduced fire hazards; and (v) reduced effort required to maintain current energy supplies, e.g., for battery charging, refueling, and operating small generators.
- 4.10 In addition, important community- and country-wide benefits would be mobilized such as: (i) increased opportunities for economic enterprise; (ii) direct and indirect employment opportunities related to electrification works (installation and maintenance of distribution lines and house connections, wallaba wood logging and pole preparation); and (iii) improved flood control through use of electric pumps. Also, electrification could provide an impetus for allocation of long-term tenure and more responsible lot management by owners, and for regularization and improvement of squatter communities.
- 4.11 In November, 2001, GPL submitted a draft of an Environmental Management System (EMS) manual to OPM and EPA for review and approval. The EMS, based on the requirements of international standards for EMS (ISO 14001) sets out GPL's environmental policy; identifies the significant environmental liabilities of its operation and the relevant environmental legislation and regulations; specifies the objectives and targets to achieve environmental compliance; and presents the organization, time schedules, and mechanisms required to meet the environmental objectives. By so doing, GPL has demonstrated its commitment to sound environmental operations and its intention to comply with environmental regulations.
- 4.12 Although the EPA confirmed this project would not require an environmental permit, a limited environmental assessment was prepared. This assessment concluded that negative socio-environmental impacts of electrification are likely to be absent or negligible. Since the new connections will be in built-up and populated areas, there is no risk of harming preserved or fragile environmental areas. Most of the potential project sites are either existing settlements, expansions of previously assigned and partially developed housing areas, or else developments on lands previously under sugar cane or rice cultivation. All sites are located on already disturbed land, in some cases under ruinated shrub vegetation, and none entail loss or conversion of natural or ecologically sensitive habitat. Potential negative socio-environmental impacts are those related to the construction phase, and are expected to be temporary and of small magnitude. Visual intrusions from distribution lines in currently unserved areas may occur, but the poles and lines will not protrude much above the roof-line in most areas and will not impair any areas of high scenic value. Nevertheless, during construction and operation new electricity connections may cause potential danger to workers and persons unaccustomed to the supply and use of electricity.

- 4.13 In order to mitigate these impacts, specific technical and environmental obligations will be included in the pertinent construction contracts, covering occupational health and safety and traffic control, in addition to EPA's regulations for noise and waste management. Additionally, a public awareness and education campaign will be financed with Bank resources to inform UAEP beneficiaries of the inherent dangers related to using electricity and the benefits of the efficient use of energy.
- 4.14 Stakeholders in hinterland electrification will actively participate throughout the entire project cycle, in order to ensure that the envisaged demonstration projects fully consider the socio-cultural and ethnic characteristics of the affected populations from the planning to the operation phase. The initial study to be funded under this component will include an evaluation of methodologies applied in the case of relevant successful projects, with a view to selecting best practices for the design and execution of the demonstration projects. Furthermore, the hinterland project preparation component will include: (i) definition of socio-environmentally sustainable options for electrification of remote and isolated communities; (ii) as appropriate, preparation of socio-environmental impact assessments and management plans for demonstration projects as well as detailed mitigation measures for the implementation and operation, including the definition of responsibilities, schedules, and estimated cost, following EPA's policy and procedures and Bank's guidelines; (iii) incorporation of socio-environmental clauses into construction contracts including procedures for social relations with local communities and occupational health and safety protection; (iv) design and implementation of a public consultation process for hinterland demonstration projects; (v) design and implementation of a participatory monitoring and evaluation system to trace project outcomes and impacts; and (vi) specific supervision of this components implementation by an outside expert whose findings will be shared with EPA and interested environmental and community groups.
- 4.15 Through the institutional strengthening and capacity building component, the Project will also support EPA and OPM through its Principal Project Coordinator's Office to supervise the implementation of GPL's EMS.

#### **F. Beneficiaries**

- 4.16 The principal project beneficiaries would be, first, new customers to be connected to electricity supplies, as well as their local economies and communities whose activities would be stimulated; second, GPL and other electricity suppliers whose customer base would be broadened and thus, their financial position improved; and third, the public entities in the sector whose decision-making and administrative capacities would be strengthened.
- 4.17 The Government recognizes the importance of consulting with project beneficiaries and other stakeholders, with a view to their participation in decisions on program priorities and on project preparation and implementation.

Consultation will follow the requirements set out in the Rules and Procedures for Conducting and Reviewing Environmental Impact Assessments (available in [www.sdn.org.gy/epa/index.html](http://www.sdn.org.gy/epa/index.html)). For UAEP-related electrification, municipal governments and neighborhood associations of housing schemes and upgraded squatter areas will be consulted, in order to establish the relative priority of sub-projects under consideration. For hinterland areas, local communities and groups will be closely involved in the evaluation process to establish requirements and feasible and sustainable approaches for future electrification. Furthermore, the project envisages an intense involvement of community organizations and civil society at large in the operational phase, especially in monitoring.

- 4.18 **Poverty targeting and social equity enhancement.** The Project qualifies as a Poverty Targeting Investment (PTI) on the basis of the geographic classification criteria since it will benefit coastal areas outside the capital city and, to a minor extent, hinterland areas whose poverty indices are well above country average. The share of households in absolute poverty is 26.7% countrywide while the corresponding share for areas outside Georgetown is 30.7%. As a result, the Project meets the Social Equity and Poverty Reduction Classification (SEQ) since it will extend the electricity system to unserved areas, especially to low-income consumers along the coast. The project will contribute to poverty alleviation, as access to a basic infrastructure service such as electricity is critical to economic activities and social empowerment and thus, sustained improvements in the quality of life, especially for women and children. It will also contribute to increases in income, savings, and social welfare associated with electricity supplies.

## **G. Risks**

- 4.19 **Country Project Preparation, Implementation, and Evaluation Capacity.** Weaknesses persist in the capacity of electricity sector institutions and operators to prepare, implement, and evaluate projects and assess their impact on the sector and the overall economy and society. In particular, limitations on part of the Government and sector institutions to monitor and supervise the operating entities pose a risk to effective project implementation. The increase in investment as result of intensified electrification requires a systematic and comprehensive approach to assessing the technical, economic-financial, socio-environmental, and institutional-administrative issues, especially those of the subprojects to be included in the UAEP-related program, which the sector institutions are not yet in a position to provide.
- 4.20 In order to address this risk, and in preparation of this Project, the Bank has supported studies to: (i) provide the Government with the tools to rank the priority and sequence of geographic areas and individual sub-projects for electrification, and (ii) evaluate the capacity of sector institutions and operating entities involved in the electrification program, and their resource requirements for undertaking the program. The Project through its institutional strengthening and capacity building component will give special attention to the institutions' capacity for project

preparation and coordination, channeling of funds, procurement, enforcement of technical and environmental standards, scheduling of maintenance, and adequacy of training programs, including their capability to adapt to changes in operating conditions. As part of this component, procedures will be developed to collect information on the economic-financial impacts of the subprojects, *including* consumption growth, number of connections, and consumption per customer. Specifically, the Project would support OPM to undertake rigorous assessments of GPL's investment and operating requirements. The Bank also intends to support PUC through a Multilateral Investment Fund technical cooperation in monitoring and supervising GPL's performance under the company's Operating Standards and Conditions, and in preparing the sector for competition in electricity generation. With a view to strengthening environmental monitoring and supervision, EPA will draft terms of reference for a relevant study and seek the Bank's no-objection through the Principal Project Coordinator.

- 4.21 **Electricity Tariff Policies.** On average, tariffs cover economic cost of electricity supplies to consumers and GPL's financial revenue requirements. Despite this,, relative prices of electricity remain inadequate as tariffs charged to different customer groups do not reflect their corresponding economic or financial costs of supplies to these groups.. The Government has reservations about raising residential tariffs to cost-covering levels, being constrained by political and popular opposition to tariff rebalancing. Furthermore, GPL's license limits tariff rebalancing for all categories to 5% p.a. and a larger rebalancing would require changes in the License. Thus far, tariffs have not been rebalanced to the full extent allowed by the License.
- 4.22 In order to deal with the need for tariff rebalancing the Bank will seek a commitment from the Government to accelerate progress toward sustainable electricity pricing, through tariff rebalancing to the full extent--5% per year for all customer groups--permitted under the current License, with less than full rebalancing to be considered only for lifeline rates. This commitment will be incorporated into the project agreement between the Government and GPL and be subject to annual reviews by the Bank. It will also be included as a component of the mid-term review. In addition to closely monitoring compliance with this commitment, the institutional strengthening and capacity building component includes resources to strengthen the Government's regulatory and supervisory capacities on tariff matters.
- 4.23 In regard to electricity pricing overall, the Bank will seek comfort from the Government that tariffs are maintained at cost-covering levels. This will also be included as part of the project agreement as a key action of program implementation. Ensuring adequate and timely policies to establish a sustainable tariff and subsidization system also would also be a key component of the Bank's macro-economic dialogue with the Government.
- 4.24 **GPL Performance and Timing and Financing of Required Generation Expansion and Other Related Investments.** GPL has not yet fully achieved its

performance and service improvement targets which were set at the time of its initiation, especially in regard to cost controls both for investments and operations, reduction of line losses and outages, and improvement of its finances. This situation has been compounded by a lack of effective supervision of GPL's operations by the Government and regulatory entities. GPL coordination with sector institutions particularly EPA has yet to develop to an adequate level. Communications with the general public, which tends to hold a negative perception of the company, have been less than satisfactory and the GPL's image of the company has been further affected by substantial tariff increases and simultaneously, limited progress in promoting Guyanese nationals into management positions, a key element of the GOG-GPL agreement.

- 4.25 The Government's targets for connecting new customers in 2002 and following years (10,000 per year) may challenge GPL's current managerial and operational capacities. Also, the increase in the customer base by approximately 40,000 new customers, which will be financed through the project's investment component, will entail the need for an estimated 15-20 MW in additional generation capacity. GPL has already completed negotiations with the European Investment Bank for about US\$18 million loan to finance part of its programmed generation expansion of 40 MW.
- 4.26 In order to address this risk, the investment component includes funding for creating and operating a competent project unit at GPL for implementing investments under UAEP. In a wider context, the Bank will stay fully involved in sector development and will provide the necessary resources to the GOG and sector institutions to strengthen supervision of GPL's performance so that lasting improvements will be attained in the company. In regard to the expansion of generating capacity and the associated financing, the Bank will continue to closely monitor progress by GPL in attracting the needed financing and implementing the needed investments in generation and other related expenditures, and would ensure that the project continues only if these investments occur at the required time. To that end, the project agreement will include that commitment, and the Bank's annual and mid-term evaluations will review the timely availability of the required generation to ensure that the investments in distribution under UAEP are phased in only as additional generation capacity becomes available.

<b>GUYANA: UNSERVED AREAS ELECTRIFICATION PROGRAM (UAEP) LOGICAL FRAMEWORK</b>			
Cause & Effect	Performance Indicators	Monitoring & Evaluation	Assumptions
<b>Project Goals</b>		<b>Goal to Supergoal</b>	
1 Increased socio-economic development and reduced poverty in Guyana	1.1 Increased per capita income 1.2 Increased employment rate 1.3 Increased productivity in industry, agriculture 1.4 Improved health services	1.1.1- Bureau of Statistics / 1.4.1 national surveys	1
<b>Project Purpose</b>		<b>Purpose to Goal</b>	
1. Improved quality of life and increased economic activity for target population (previously unserved low-income areas)	1.1 All new consumers use electricity instead of kerosene and other means for lighting purposes 6 months after they have been served, measured annually  1.2 Newly connected areas achieve 90% of national average for ownership of electrical appliances by 2010 1.3 60% of the newly connected schools in coastal areas have information technology by 2008, 80% by 2010  1.4 2 community centers in the hinterland have access to electricity and computer by the end of 2006 1.5 Newly connected areas reach 80% of national level for small businesses by 2010, based on a baseline from 2002 1.6 100 previously unserved areas use electrical pumps for water supply by 2007	1.1.1 GPL's consumer portfolio for data on UAEP consumers.  1.2.1 Bureau of Statistics/ special survey  1.3.1 Administrative data of Ministry of Education  1.4.1 Ministry of local Government  1.5.1 Bureau of Statistics for baseline data (2002) /special survey 1.6.1 Data from the water authority	1 Other infrastructure (information and communications technology) and social programs (education and health) in Guyana are completed according to their purpose  2 Adequate macro-economic framework  3 Stable social and political conditions

Cause & Effect		Performance Indicators	Monitoring & Evaluation	Assumptions
Project Outputs				Output to Purpose
1	<b>Investment component</b> Electrification program in the coastal region implemented and operational	1.1 Installation of new connections by GPL; 2000 in 2001, 8000 in 2002, 10,000 in 2003, 10,000 in 2004, 10,000 in 2005	1.1.1 GPL quarterly reports to Office of the Prime Minister (OPM)	1 Ability and willingness by consumers to pay the connection and electricity charges
		1.2 Connections based on selection criteria for sub-projects	1.2.1 GPL quarterly reports to OPM	2 New connections use the electricity provided in an economically and socially productive manner
		1.3 Tariff rebalancing within the full scope of GPL's license with less than full rebalancing only for lifeline rates	1.3.1 GPL's interim and final return certificates. Annual and mid-term reviews.	3 GoG and GPL conduct annual reviews and implement tariff rebalancing within the full scope of the license with less than full rebalancing only for lifeline rates
2	<b>Hinterland project preparation component</b> Sustainable, cost-efficient and socio-environmentally friendly electrification program for hinterland communities developed and demonstration projects completed	2.1 Comprehensive strategy for Hinterland Electrification approved by Cabinet and made public by OPM by first quarter 2003	2.1.1 Strategy-paper for Hinterland Electrification issued by OPM and Cabinet decision	4 Timely availability of generation and other related investments
		2.2 3-5 sustainable demonstration projects based on the strategy for Hinterland Electrification and independent supervision and evaluation of the projects completed by 2006	2.1.1 M & E reports, site visits	
		2.3 Independent supervision of component completed by the end of the demonstration projects and report delivered by end 2006	2.3.1 M & E reports, site visits and evaluation report by independent supervisor	
3	<b>Institutional strengthening and capacity building</b> completed	3.1 Agreed recommendations based on studies of legal, regulatory and institutional framework implemented by 2003	3.1.1 Supervision reports and relevant legislations and regulations	
		3.2 5 training programs carried out in country by end 2003, based on Stone and Webster, Power Planning Associates (PPA) and other reports relevant to the Hinterland component	3.2.1 Supervision reports on training and training program	
		3.3 Steering Committee at OPM functional by March 2002 and Project Implementation Unit (PIU) at OPM and dedicated UAEP staff at GPL operational by June 2002	3.3.1 Supervision reports and staff contracts	
4	<b>Monitoring and evaluation</b> (M & E) system in place and operational	4.1 Activities, including milestones, met according to the detailed schedule and ex-post evaluations completed based on indicators on Purpose and Goal levels	4.1.1 Activity plan, scheduling, annual, mid-term and end-of-project evaluations	

Cause & Effect	Performance Indicators	Monitoring & Evaluation	Assumptions
Project Activities	Inputs		Activity to Output
<b>INVESTMENT COMPONENT</b>	<b>Output 1: US\$ 27.725 million</b>		
1.1 Study on economic costs and tariffs by Mercados Energeticos	1.1 US\$ 170,000	1.1.1- Budgets and timetables, 1.1.3 activity plan, M & E system	1 Availability of skilled labour, competent trainers and trainees
1.2 PPA study	1.2 US\$ 192,000		
1.3 GPL-GOG project agreement based on IDB loan requirements	1.3 US\$ 0		2 Studies and assessment recommendations are timely implemented
1.4 Project Implementation Unit at GPL to be established	1.4 US\$ 1,909,000		3 Active and coordinated support by GOG and sector institutions as well as operational support by GPL
1.5 Physical works to expand distribution	1.5 US\$ 25,214,000		4 GPL negotiations completed for financing generation and other related activities in its development and expansion program
<b>HINTERLAND PROJECT PREP.</b>	<b>Output 2: US\$ 4.5 million</b>		
2.1 Assessment of options and definition of a strategy for demonstration projects	2.1 US\$ 200,000		5 Annual GOG review of GPL's Development and Expansion Program ensures that GPL has sufficient generation capacity
2.2 Feasibility studies and technical designs of selected demonstration projects	2.2 US\$ 300,000		6 GPL operations and investments conducted according to approved Environmental Management System
2.3 Construction of demonstration projects	2.3 US\$ 3,350,000		7 Appropriate legal, regulatory and institutional reforms are enacted and implemented
2.4 Independent supervision of projects	2.4 US\$ 63,000		8 Trained personnel will remain in their jobs after completion of the
<b>INSTITUTIONAL</b>	<b>Output 3: US\$ 1.5 million</b>		
3.1 Project Implementation Unit at OPM to be established	3.1 US\$ 745,000		9 Villages and squatter schemes are regularized prior to selection of subproject for electrification
3.2 Review of legal, regulatory and institutional framework	3.2 US\$ 40,000		10 GOG fosters full community participation in Hinterland Project Development, and establishes a framework for sustainable, administration, operation and maintenance of Demonstration Projects.
3.3 Framework for a monitoring and evaluation system of the complete UAEP	3.3 US\$ 0		
3.4 Training and assistance for monitoring and evaluation	3.4 US\$ 200,000		
3.5 Technical Assistance and Capacity Building	3.5 US\$ 380,000		

**GY-0065: UNSERVED AREAS ELECTRIFICATION PROJECT  
PROCUREMENT PLAN**

**ANNEX II  
Page 1 of 2**

Activity (Year)	Year & Quarter of Advertisement	Contract Amount	IDB	Notes	IDB (GOG)	GPL - UAEP <sup>5</sup>	GPL - NON UAEP	Procedure
		(US\$000)	(%)		(US\$000)	(US\$000)	(US\$000)	
Goods for the GPL Distribution System (2002/2003)	2001-III	6,500	80	1	5,200	0	1,300	International Competitive Bidding
Surveying Services (2002/2006)	Starting 2001-IV	100	0		0	100	0	National Competitive Bidding
Wooden Poles, Cross- arms & Sleepers (2002/2003)	2001-IV	1,000	0	4	0	800	200	National Competitive Bidding [six Lots @US\$130,000 each]
Distribution Transformers (2002/2003)	2002-II	2,000	80	1	1,600	0	400	International Competitive Bidding
Computer equipment and software	2002-II	75	0		0	75	0	National Competitive Bidding
Consultants/Local Staff 2002/2006	Beginning 2002-II	1,909	100		1,909	0	0	International/National Private Bidding
Furniture	2002-II	50	100		50	0	0	National Competitive Bidding
Vehicles (pick-up 4x4, Nos.2)	2002-II	50	100		50	0	0	National Competitive Bidding
Contractors 2002/2003 (4 contract Lots)	2000-II <sup>2</sup> to 2002-IV	2,000	30	3	600	1,400	0	National Competitive Bidding and Price Competition [four Lots each US\$500,000]
Public Awareness Campaign: Energy Efficiency/Health and Safety	2002-III	150	100		150	0	0	International/National Private Bidding
Goods for the GPL Distribution System (2004/2005)	2003-III	7,150	80	1	5,720	0	1,430	International Competitive Bidding
Wooden Poles, Cross- arms & Sleepers (2004/2005)	2003-IV	1,100	0	4	0	880	220	National Competitive Bidding [six Lots @US\$130,000 each]
Distribution Transformers (2004/2005)	2003-IV	2,400	80	1	1,920	0	480	International Competitive Bidding
Contractors 2004/2006 (over 4 contract Lots)	Beginning 2003-IV	2,300	30	3	690	1,610	0	National Competitive Bidding and Price Competition
Financial and Operational Audits	Beginning 2002-IV	250	100		250	0	0	International Competitive Bidding

<sup>1</sup> Contracts will include materials for GPL stock outside the scope of UAEP.

<sup>2</sup> Four contractors have already been pre-qualified by and are currently working for GPL at agreed unit rates as a result of NCB process

<sup>3</sup> IDB (GOG) contribution reduced to 50% to take into account customer contribution (100% take up by 40,000 is assumed).

<sup>4</sup> GPL's contribution to UAEP is 80% - 20% of materials is for GPL stock outside of UAEP.

<sup>5</sup> GPL-UAEP contribution includes consumer contributions of US\$2 million.

<b>Activity</b>	<b>Year &amp; Quarter of Advertisement</b>	<b>Contract Amount (IDB/GOG)</b>	<b>IDB (GOG)</b>	<b>Procedure</b>
<b>HINTERLAND</b>	<b>(US\$000)</b>	<b>(US\$000)</b>	<b>(%)</b>	
Studies to evaluate options and requirements for hinterland electrification and to develop terms of reference for engineering studies of demonstration projects.	2002 - II	200	100	Selective tendering by short list
Consultant to conduct engineering studies, design and management plan and costing for demonstration projects.	2003 - II	300	100	International Competitive Bidding
Turnkey contracts for construction of demonstration projects in accordance with approved designs and technology and inclusive of materials.	2004 - II	3,350	100	International Competitive Bidding
Independent Supervision	2003 - IV	63	100	Selective - by shortlist
<b>INSTITUTIONAL</b>				
Consultants to assess training requirements and develop training programmes for relevant sector agencies	2002 - IV	30	100	Selective tendering by short-list
Consultants / Trainers to carry out training programmes. Includes support to existing vocational training institutes for electrical contractors	2003 - I	200	100	Selective tendering by short-list / International Competitive Bidding
Project Management (PIU - OPM)	2002 - II	694	100	National Competitive Bidding
Vehicle (pick up 4 x 4)	2002 - II	25	100	Selective by quotes
Furniture	2002 - II	10	100	Selective by quotes
Computer and Equipment	2002 - II	15	100	Selective by quotes
Technical and Institutional Assistance for PUC, EPA, CEI etc. Including twinning arrangements	2003 - I	150	100	Several contracts by Selective Tendering or International Competitive Bidding
Capacity Building at the Office of the Chief Electrical Inspector - includes one appointment at senior position for 2 years based on expatriate US\$ 100,000 per annum package.	2002 - III	200	100	Selective tendering by short-list / International Competitive Bidding
Legal and Regulatory Reforms	2003 - I	40	100	Selective tendering by short-list / International Competitive Bidding

**GUYANA  
UNSERVED AREAS ELECTRIFICATION PROGRAM  
(UAEP)**

**KEY FEATURES OF THE AGREEMENTS FOR THE  
CAPITALIZATION TRANSACTION AND THE LICENSE OF  
GUYANA POWER AND LIGHT, INC. (GPL)**

This annex summarizes the principal terms of the agreements between the Government of Guyana (the “Government”), Americas and Caribbean Power Limited (“AC Power”, the company established by Commonwealth Development Corporation and ESB International Limited (“CDC/ESBI”)), and Guyana Power & Light, Inc. (“GPL”) for the transfer of the operations of the Guyana Electricity Corporation (“GEC”) to GPL and for GPL’s capitalization and management (“the transaction”).

**THE AGREEMENTS**

On October 1, 1999, the Government and AC Power signed four principle agreements for the transaction; i.e.: the Share Subscription Agreement, Shareholders’ Agreement, Management Agreement, and Operating and Agency Agreement (the “agreements”). The salient provisions of those agreements are:

**Investment Amount:** US\$23.45 million to be disbursed in four tranches until October 1, 2002.

**Transaction Mechanism:** At the time of closing, (i) GPL was incorporated in Guyana, (ii) the Government issued a Vesting Order transferring designated assets and liabilities of GEC and GEC’s employees to GPL, and (iii) GPL has taken over the operations formerly carried out by GEC, extended to include the entire country as a franchise area.

**Purpose:** The proceeds of the investment are to be utilized for the rehabilitation and improvement of GPL’s services and facilities and for general working capital.

**Timing of Investment:** To minimize the upward pressure on electricity rates from the investment which would need to earn a rate of return, the US\$23.45 million is to be paid in four tranches: US\$9,000,000 at closing; US\$6,000,000 on the first anniversary of closing; US\$5,000,000 on the second anniversary of closing; and US\$3,450,000 on the third anniversary of closing. AC Power’s obligation to make the second, third and fourth tranche payments is contingent upon the following conditions being met: (1) the tariff increases to which the Government, the Guyana social partners (labor unions, private sector and consumers association) and CDC/ESBI have agreed to are implemented; (2) the Government has paid certain agreed-upon subsidies of electricity rates from closing until December 31, 2000 (with subsidy payments to be made from income that the Government would otherwise have received from GPL’s collection of GEC’s accounts receivable and the lease of certain generation assets retained by GEC); and (3) the

Government's honoring of its commitments to facilitate access to foreign exchange for GPL's fuel purchases and payments under the leases originally signed with Wartsila, now held by Clico Investment Bank Limited. To date, three tranches totalling US \$20 million have been disbursed. Payment of the fourth and final tranche is due by October 2002.

**Share Structure after Closing:** Voting common shares to be held 50% by the Government and 50% by AC Power. The consideration for the Government's common shares will be the assets of GEC that are being transferred to GPL.

**Additional Share Issuance at Closing:** The Government and AC Power will also be issued Class A Preference Shares in equal portions, with those shares to convert to common shares on the fifth anniversary after closing. The Government will also be issued Class B Preference Shares at closing, representing certain debt that GEC owed the Government. The Government's Class B Preference Shares will be converted to a debenture on the fifth anniversary after closing. The Government is also being issued a Special Share at closing that carries the controlling vote on "company-altering" votes of the GPL Board.

**Private Placement and Initial Public Offering:** Additional capital was anticipated to be raised by a private placement of up to 5% of the common share capital of GPL to Guyana-based institutions before October 1, 2001, with the Government's and AC Power's common shareholdings in GPL diluted accordingly. This private placement has not yet taken place. Within five years following closing (October 1, 2004), GPL is anticipated to carry out an initial public offering, which (in combination with the earlier private placement) will bring the common shareholding of GPL to 40% for AC Power, 40% for the Government, and 20% for the private placees/the public in Guyana and other CARICOM countries/GPL employees.

**Restriction on Transfer of Shares:** The shares issued to the Government and AC Power will carry a right of first refusal to the other and cannot be transferred, pledged or assigned without the consent of the other party. The Management Agreement will also give a right of termination of the agreement by GPL if AC Power's shareholding falls below 25% without the consent of the Government.

**Rate-Setting Procedure:** The 1999 Electricity Sector Reform Act establishes a clear procedure for the Public Utilities Commission's annual review and adjustment of GPL's rates. The rates will be set in accordance with a comprehensive rate-of-return based formula included in the GPL Licence as Schedule 1. Adjustment to the import costs of fuels required for electricity generation or exchange rate of the Guyanese currency, equal to or greater than 3% can be reflected in a surcharge or rebate in electricity rates.

**Rate of Return and Rate-Based Rate of Return Calculation:** The rate of return to AC Power and the Government on equity for rate-setting purposes will be 23% before tax, which equates to 14.9% after tax. The rate-setting formula included in the GPL Licence will ensure that rates are set to provide: (a) the operating income necessary for GPL to

meet its financial obligations and to otherwise operate and (b) income sufficient to pay dividends on equity invested at the agreed upon rate of return.

**Manager:** AC Power, through a subcontract arrangement with a subsidiary of ESBI, will serve as the manager of GPL.

**Management Fee:** GPL will be paid an annual management fee of US\$ 3.6 million up to year 4 and US\$2.5 million from years 5 to 10, which will cover the salary and expenses of all expatriate employees provided by AC Power and AC Power's other costs of performing the Management Agreement. The management fee can be increased or decreased in accordance with a set schedule if AC Power exceeds or fails to meet certain performance targets respectively.

**Lease of Certain Assets Retained by GEC and Collection of GEC's Accounts Receivable:** GEC will retain generation equipment whose purchase was financed with grant funds from Japanese Government, as required by the terms of the Japanese grant aid. GPL will also retain the assets constituting the steam power plant at Kingston (Georgetown). These assets will be leased back to and operated by GPL under the Operating and Agency Agreement. The Operating and Agency Agreement also provides for GPL's collection of GEC's remaining accounts receivable.

**Governing Law/ Dispute Resolution:** The governing law of the agreements is Guyana law. The agreements call for the resolution of disputes first through friendly negotiations and, failing a negotiated resolution, international arbitration. In the case of the Share Subscription Agreement and Shareholders' Agreement to which the Government is a party, arbitration is to be held before the International Center for the Settlement of Investment Disputes (ICSID) in Washington, D. C. If the dispute involves the Management Agreement and/or the Operating and Agency Agreement, arbitration is to be held in Washington, D. C., under the UNCITRAL Arbitration Rules.

**Environmental Aspects:** During the first year of its operations, GPL updated the environmental audit of its operations and assets to identify any further liabilities. These environmental liabilities existing prior to October 1999 are to be borne by the Government, and remediated by GPL at the expense of the Government. Any future liabilities will be GPL's, which will bear the costs of any remedial actions. GPL has developed an Environmental Management System and submitted it for approval by the Minister with the Guyana's Environmental Protection Agency (EPA) as the principal advisor.

## THE LICENCE

On October 1, 1999, the Government of Guyana also issued a Licence to GPL to supply electricity. The principal features of the Licence are:

**Term:** 25 years, with an extension of 15 years provided GPL is not in material breach of the License terms and conditions.

**Franchise Area:** The country of Guyana.

**Exclusivity/Non-Exclusivity Terms:** GPL's Licence is non-exclusive for generation, but exclusive for transmission and distribution. In instances in which the Government would want to see a rural electrification project developed, but is unable to reach agreement with GPL on the financing and other terms for the project, the Government retains the right to carry out the project itself or to grant a licence to another public supplier for such purpose.

**Competition in Generation:** Except during the first five years after closing (i.e., the rehabilitation phase), GPL is required to facilitate competition in generation through competitive bidding. During the rehabilitation phase and thereafter, GPL will be required to give priority consideration to generation projects that use alternative, renewable energy sources (e.g., hydropower, bagasse, wind).

**Sustainability and Development and Expansion Programs:** GPL will be required to maintain annual and rolling five-year sustainability and development and expansion programs, which must be reviewed by the Public Utilities Commission and, approved by the Minister on an annual basis. The Public Utilities Commission is responsible for enforcing GPL's commitments under its approved development and expansion programs. GPL has prepared and submitted its Development and Expansion Plan for 2002-06 to the Minister for approval.